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DELAWARE STATE MEDICAL JOURNAL

THE N.Y. ACADEMY OF MEDICINE
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Official Organ of the Medical Society of Delaware
INCORPORATED 1789

19
1947

VOLUME 19
NUMBER 1
JANUARY, 1947
Per Copy, 20c
Per Year, $2.00

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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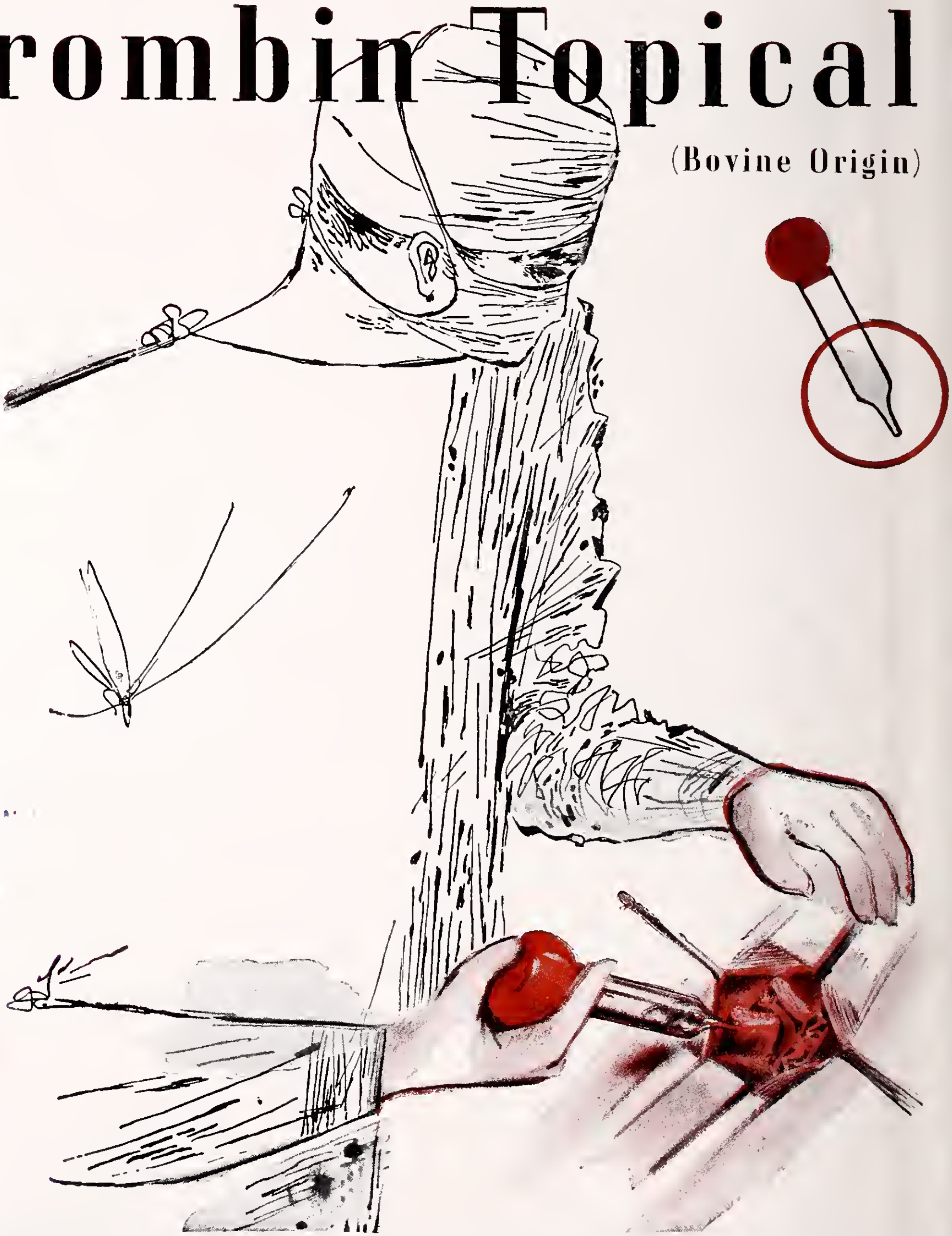

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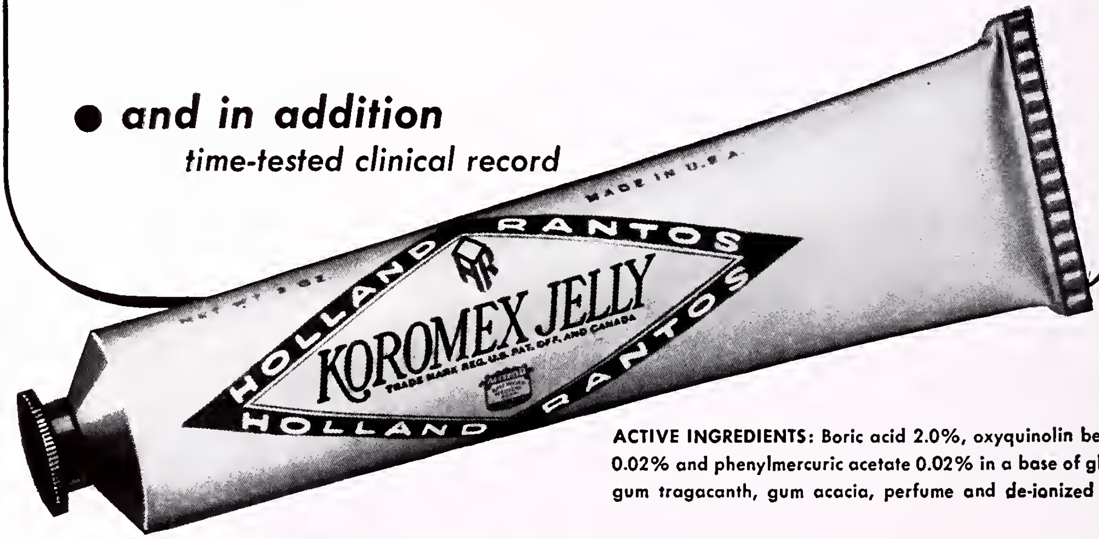

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1. [illegible] J. A. M. A. [illegible] 1946.

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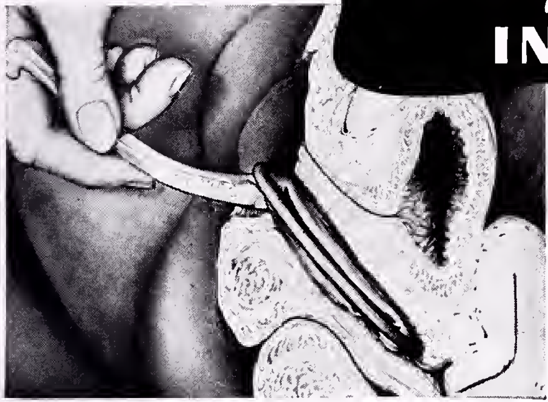

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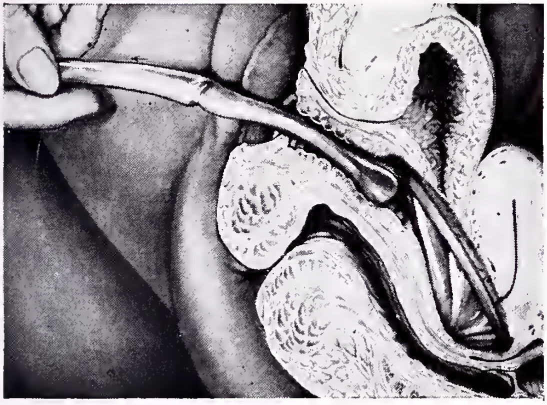

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1. Bunn, P. A.: in Conferences on Therapy: New York State J. Med. 46:527 (March 1) 1946. 2. György, P.: Evans, K. W.; Rose, E. K.; Perlingiera, J. G., and Elias, W. F.: Pennsylvania M. J. 49:409 (Jan.) 1946.

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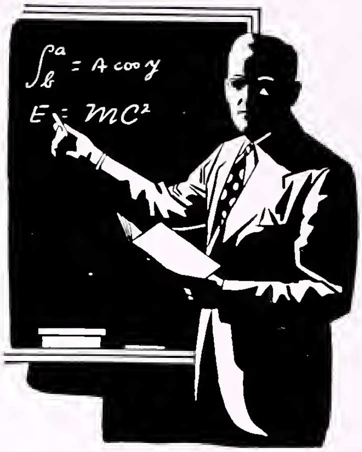

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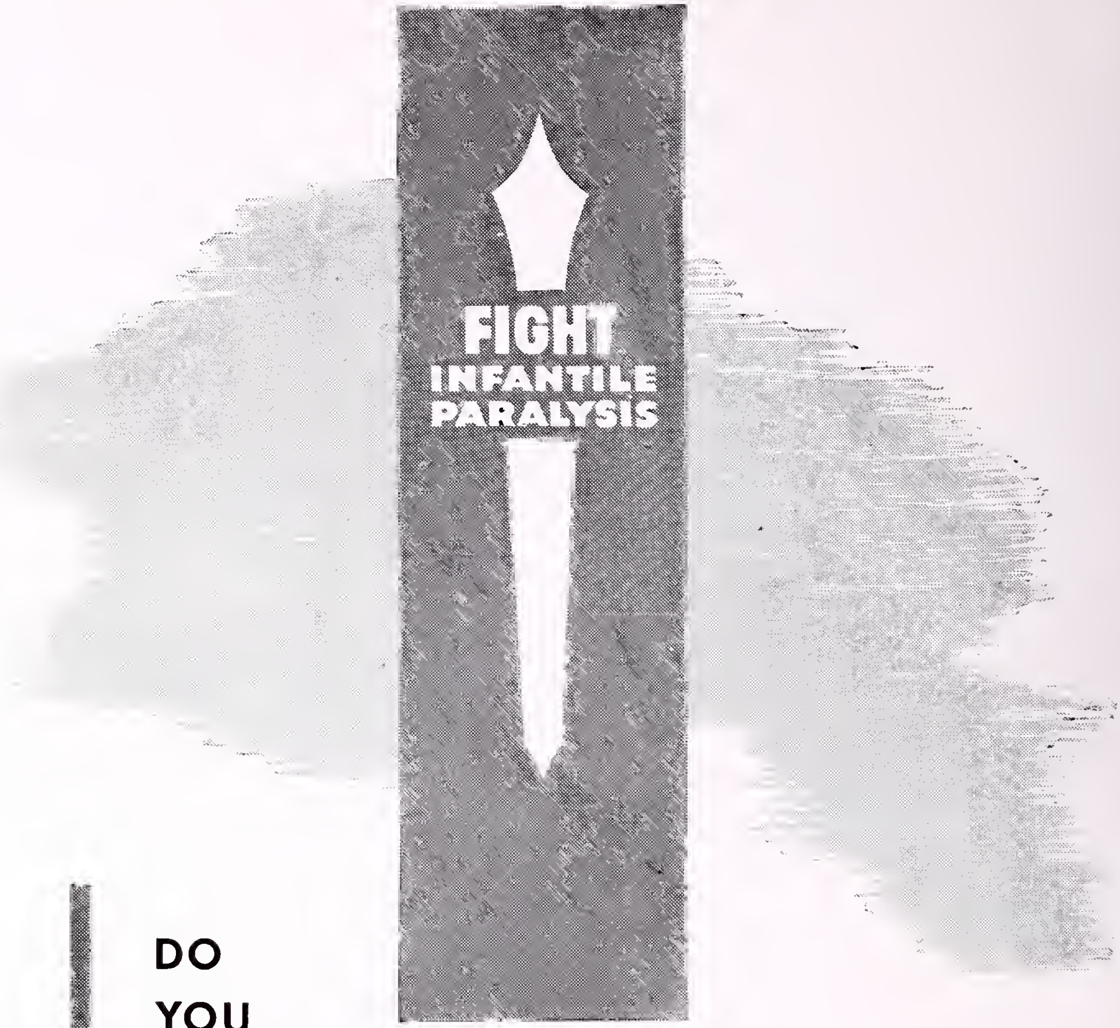

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 1

JANUARY, 1947

Per Copy, 20c
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MEDICAL REHABILITATION: THE DOCTOR'S RESPONSIBILITY*

Alfred R. Shands, Jr., M. D.,
Wilmington, Del.

In the 18th century Cullen once wrote, "For when many new facts have been acquired, it becomes requisite that these should be incorporated into a system whereby not only particular subjects may be included, but the whole may be rendered more complete, consistent and useful."[9] This is the status of rehabilitation today. The war has been the means of acquiring an enormous volume of new facts on all types of subjects relating to the rehabilitation of the sick and wounded. Now it becomes requisite that this accumulation of new factual data be integrated into a system which will be "complete, consistent and useful" in the work of attaining the goal of rehabilitation, namely, "the restoration of the handicapped to the fullest physical, mental, social, vocational and economic usefulness of which they are capable."

Platt of England has appropriately divided rehabilitation into two stages, the first, medical, the second, social and industrial.[4] The purpose of this paper is to present to you some of the new data on medical rehabilitation. Based on this data, the author believes a new system of medical care is now evolving which will ultimately be incorporated into our present concepts of the practice of medicine and be as important a responsibility of the physician and his associates as prevention, diagnosis and treatment is today. This new system has been appropriately termed by Rusk "the third phase of medicine."

One of the great physicians of the 19th century was a Frenchman named Pierre Louis. He was the first to demonstrate and conclusively prove the value and importance of the use of statistics in the practice of medicine. Through his teachings, many accepted forms of therapy were proven to be in error and were discarded; many unaccepted forms were proven to be correct and were accepted. This was a revolutionary contribution to medicine in his day. A contemporary English physician of the great Louis once wrote in referring to his work, "Through medical statistics lies the most secure path to the philosophy of medicine."[9] The war has been the means of furnishing accurate statistics in many fields of medicine but in no field have these statistics been more important than in the field of rehabilitation. As a result many of the concepts of rehabilitation, have gone from the category of conjecture to one of exactitude. The path to our present day philosophy of the "third phase of medicine" is undoubtedly now being secured by these statistics.

First, what are some of the statistics on rehabilitation? During the war in our military hospitals there were two kinds of rehabilitation programs in this country planned primarily for two types of patients; one for the patient prior to combat or overseas duty, and the other for the patient subsequent to combat or overseas duty. The first program was administered almost entirely in the hospital and was largely medical rehabilitation. The second program was usually carried on in special convalescent centers and in addition to medical included social and industrial rehabilitation. A description of a typical case in the first program will give to the reader unfamiliar with the subject an idea of the operation of medical rehabilitation as practiced in the Armed Forces.[8]

Case Report: S Sgt. Smith is a radio operator and a member of the crew of a Flying Fortress training at a Zone of Interior flying field. While on a routine training flight, Sgt. Smith's bomber had a crash landing and he suffered fractures of his back and right arm. After being taken to the hospital, his fractures were set and his back and arm placed in plaster casts. Following the accident his first thought was: "How long a time will I be a patient?" On the fourth day after his admission to the hospital, he was interviewed by the Hospital Rehabilitation Officer. This officer obtained from Sgt. Smith's doctor the prescription for the quality and quantity of physical, mental and vocational activities he was to have while in the hospital, prescribed in the same way as medicines might be ordered. After this interview, he appreciated for the first time that the hospital staff was interested in him as the *individual* Sgt. Smith and not as a number in a hospital ward. He also realized the staff was more concerned with getting him out than keeping him in the hospital. This thought certainly did not disturb him as the crew of his bomber were "taking off" in 12 weeks for foreign duty and he did not want to be amongst the missing. So the question in his mind changed immediately from "How long a time will I be a patient?" to "How short a time can I be a patient?" He soon recognized the fact that the harder he worked on the prescribed program, not only the sooner would he return to his outfit, but also the better physical condition he would be in when he did. He was started immediately on physical reconditioning with bed exercises for his legs, good arm and shoulders. In a few days he was up walking and the amount of exercise was increased. He then went daily to the hospital radio shop, where he used not only his good hand but also the hand of the injured arm in a cast to work on radios; he increased his speed in sending and receiving with the telegraph key. He taught other soldier patients about radio operation and repair, and the Morse Code. With more time to concentrate on his military vocation, he rapidly became a more proficient radio operator. After the second or third week, he was going to the gymnasium of the Physical Therapy Department for special exercises and was participating in volley ball games. Lectures on subjects he had always been interested in were attended, entertaining and instructive selective reading became a part of his daily routine, and he found he had no spare time for activities other than those prescribed. By the end of each day he was both physically and mentally tired and there were no sleepless nights so often associated with a hospital. At the end of ten weeks his casts were off and after three weeks more he not only felt able to return, but was fully capable of going back to work. No refresher radio training was necessary. He joined his squadron immediately after being discharged, was able to to perform all of his full military duties and was in time to go overseas with his bomber crew. His discharge from the hospital was in 25 per cent less time than the average case with the same disabilities without rehabilitation, and Sgt. Smith well knew he was a better soldier mentally and physically than he had been when he entered the hospital three months before.

---

* Read before the Medical Society of Delaware, Dover, October 8th, 1946.

** Medical Director, Alfred I. duPont Institute of the Nemours Foundation.

In the case of Sgt. Smith, military necessity was dictating a speedy rehabilitation and return to active duty in the minimum time. In many of the Army technical training schools in 1942-1943 instruction was given around the clock in 8-hour shifts. It was an absolute necessity for the Army to train the greatest number of men in the shortest possible time. This type of stimulus to rehabilitation during peacetime we know is non-existent, but with hospital beds at a premium and peacetime production demanding labor, we also know that there is still an urgent need to minimize hospital days and time lost from employment. Furthermore, how much better it is for the patient, his morale, and his economic status to be back on the job with the least possible delay.

Rehabilitation does not involve only the surgical patient for the medical patient is also involved. The tremendous value of rehabilitation to the medical case is exemplified in two A.A.F. medical service reports. One concerns a group of 645 virus pneumonia patients and the other pertains to a group of rheumatic fever patients.[7] Concerning the virus pneumonia patients, 50 per cent were given rehabilitation; 50 per cent were not. Those who received rehabilitation required 31 days of hospitalization, those who did not receive rehabilitation required 45 days, a difference of 14 days or 45 per cent more hospital time. There was a recurrence rate of 3 per cent amongst those with rehabilitation, 30 per cent amongst those without rehabilitation, 10 times as great. During 1943 and 1944, there were hundreds of soldiers with rheumatic fever in the A.A.F. hospitals in the Rocky Mountain area. Before a comprehensive rehabilitation program, including graduated physical reconditioning, educational projects, etc., was instituted for these patients, 85 per cent of these were given a medical discharge. After rehabilitation was instituted, only 15 per cent were given a medical discharge. These two striking examples of what medical rehabilitation can do certainly show what an enormous saving of personnel and man-hours is involved. Rowntree has stated, "War is a great teacher. It will teach the individual doctor much and advance the science and art of medicine greatly, if we have but the vision and the will to learn."[6] Let us hope that we do have the wisdom and will to learn.

During the war a series of very exact experiments was performed by Ancel Keys in Minnesota on a group of conscientious objectors.[2] In the report of these experiments he uses the term "deconditioning" as contrasted to reconditioning. The deconditioning process is that of weakness, loss of strength and the accompanying changes which follow rest, particularly rest in bed. The subjects of the experiment were given complete bed rest for six weeks. The study showed in the whole group that there was a reduction in blood volume of from 10 to 20 per cent, an average reduction in the size of the heart of 11 per cent, an average decrease in reaction time of 5 per cent, a marked decrease in coordination, a disturbance in the vasomotor and proprioceptor adjustments, and a disturbance in the nitrogen and potassium balance. It was found that a normal nitrogen balance required double the amount of protein to be maintained. In addition, in many instances there was found to be constipation with occasional fecal impaction, postural hypotension, tachycardia, inability to void, especially in older men, and in some instances arthritic manifestations about the neck and shoulder girdle. With these conditions being produced in normal individuals, it certainly can be seen how in debilitating illness and disease in which ordinarily many of these changes are prone to occur, indiscriminate bed rest may enhance the deconditioning process and delay recovery.

With the findings of Ancel Keys in mind the question should be asked, "How can deconditioning best be avoided?" Hippocrates and Galen were some of our original teachers in this field of medicine. Hippocrates stated, "Exercise strengthens and inactivity wastes" while Galen wrote, "Employment is Nature's best physician." The basis for prevention of deconditioning is an active regime of exercise and employment, i.e. purposeful activity started at the earliest possible moment. The axioms of physical education are here most applicable for the prevention of deconditioning, namely, (1) exercise the whole body, (2) produce mild to moderate fatigue, not exhaustion, (3) provide some exercise every day, (4) adjust and graduate the program as rapidly as possible, (5) avoid sudden localized strain, and (6) make sure the patient is enjoying the reconditioning process. The natural voluntary efforts of the patient are often times more pleasing and effective than prescribed exercises. Sitting up in bed or in a wheelchair, periodic trips to the toilet, etc., are all useful either in prevention of deconditioning, or as a first stage of reconditioning. In most instances after illness, injury and surgery this type of activity can be commenced earlier than is the present practice in hospitals. As the convalescence progresses, more vigorous exercises are needed and an intensified program is called for. It should be pointed out that the exercises when given should be just to the point of fatigue. Certain forms of occupational therapy in which the patient can be interested may be most beneficial as a means of obtaining exercise for certain muscle groups. When the patient is ambulatory, the occupational therapy may be continued to great advantage in a hospital workshop, which was to be found during the war in nearly every military hospital. In a few instances, these shops in Army and Navy hospitals were elaborately equipped by industries who were interested in the rehabilitation of the soldier and sailor. These suggestions of exercise and employment will afford the patient an excellent means for minimizing or preventing a serious deconditioning process and aiding the physical reconditioning.

In exercising it should be remembered that every muscle fibre acts "as a sub-station" for the heart.[3] It is a minute pump and its pumping action enables the heart to carry its "enormous and relentless load" to every part of the body. It is not generally known, but it has been definitely proven that the work of the heart is greater and the cardiac output is increased by changing from the sitting to the lying position. The amount of this increase is from 12 to 33 1/3 per cent; hence, the advantage of getting the patient in the sitting position as soon as possible is very evident, especially when the heart is involved. Dock states that the physician should treat bed rest with as much respect as morphine and digitalis[1] and undoubtedly in certain heart conditions, every day of recumbency increases the hazard to life.

The hazards of phlebothrombosis of the veins of the lower extremity and pelvis and pulmonary embolus are well known after surgery in older people, especially when prolonged recumbency is necessary. The extreme importance of early ambulation in this group after surgery has long been known and cannot be overemphasized. There have been many series of cases recently reported, showing the value of early mobilization after various types of surgery in all ages. Powers has reported 500 postoperative abdominal cases of all types,[5] some of these being operations as large and serious as gastric resections, and Whipple 1,000 similar cases,[10] in which the patients were out of bed on the first or second day after operation. The average hospital time for the 1500 cases was five days less than the hospital time for similar cases treated with bed rest and in Powers series the patients returned to work in four weeks less time. The postoperative complications were 50 per cent less. These statistics certainly afford convincing evidence of the value of early ambulation after surgery.

The statement has been made that the planned rehabilitation day with its disciplined program for the military patient cannot be transplanted in its entirety to civilian hospitals.[4] This is not wholly true. There is a great deal of the pattern of the sustained activity of the military hospital with its physical education, physical therapy, occupational therapy and educational and recreational projects which can be taken into the civilian institution to great advantage. The medical officers who were in the hospitals of the Armed Forces in this war and saw what was going on cannot help but realize the importance and value of this type of medical program to the practice of both military and civilian medicine. It is now our duty and responsibility as peace time physicians to take up where the war left off, establish systems both for the prevention of deconditioning as well as reconditioning and make medical rehabilitation programs worthwhile in our civilian hospitals.

There is no doubt that certain forms of medical practice go in cycles; what one generation may do, the next generation may condemn. This is well exemplified in the teachings of Benjamin Rush, called by some the Father of American Medicine. He taught that patients with all diseases should be purged and bled. In 1843, thirty years after his death, a famous physician stated that this teaching of Rush was, ''Utter nonsense and unqualified absurdity.'' The analogy to rehabilitation is in the teaching of the great Weir Mitchell who in the last century wrote and preached total rest, for almost every disease and illness. Thousands were treated by bed rest and there is no doubt that thousands succumbed to degenerative disease and mental decay as a result.[3] Today we have such statements[3] appearing in the literature as, ''Rest is a disease,'' or ''Ease becomes often disease.'' ''Ease softens us a trifle at first, prolonged it softens us much. In time ease makes us impotent in the face of hardship.'' If the medical lessons of this war and what has been demonstrated in many civilian hospitals during the last decade are to be fully appreciated and applied as they should, the hospitals of the future will not be filled with people lying in bed, but will be filled with people strenuously participating in programs of activity in order to get well and out of the hospital. Only the acutely ill will be allowed to rest. The doctrine of rest of Weir Mitchell will be as dead as the ''bleed and purge'' doctrine of Benjamin Rush was 30 years after his death. There has been a saying, ''Better sitting than standing, better lying than sitting.'' This is a mistaken therapeutic idea. It has been now paraphrased to read, ''Sooner dead, if lying; get up and get well.''[2]

From the story of Sgt. Smith, the statistics of the A. A. F. virus pneumonia and rheumatic fever patients, the deconditioning experiments of Ancel Keys, the proven increased work load on the heart in the lying position and the statistics of early mobilization after surgery, there is a lesson to be learned which we as doctors must not overlook. It is our responsibility to restore the sick and wounded to maximum usefulness in the minimum time. How better can this be done than by adding to our present systems of therapy a system of active medical rehabilitation so recently learned during World War II. This must be done, for it shall not be said that we as physicians are neglecting our duty in failing to apply to medical practice the concepts of the "third phase of medicine."

Discussion

Dr. I. M. Flinn, Jr. (Wilmington): Dr. Shands has fairly well covered the field, I think. It is a philosophical subject as well as one that has tremendous practical values. During the war we came in contact with a considerable amount of this rehabilitation and, frankly, we hated it for the simple reason we were busy enough doing what we thought we should be doing. However, we had to follow through with it. There is no question about it. It is surprising how well the men did.

Now, just as an example, we had two or three of these hospitals in England, and there they developed, thanks to the British, some rehabilitation work. I never knew that a man could be trained to expand one side of his chest, but he can, and the remarkable thing about such treatment, in chest wounds and so forth, was the recovery following these exercises. It didn't take a man long to learn how to do it. It was most remarkable and the time in the hospital was cut down just that much thereby.

Another thing we used to do—it was sort of all on our own, but it was a good plan—if we had 45 or 46 knee cases in the hospital we put them all in beds right together. We would operate on them on the same day or within a day or two, and it wasn't long before you could go into the ward and see Tom looking over at Dick and saying, "What are you doing? How much motion have you got today?" And it was a race to get well. Nobody wanted to be behind the other one getting out of the hospital as quickly as he could. All of that comes under this same business of rehabilitation.

We also instituted at times—and I don't think this could be done in civilian life—rehabilitation of our whole ward. There were thirty beds in a ward, and we would get a tough old sergeant who happened to be lying there in bed and tell him he had to go ahead and start exercises for the whole outfit. Well, he would be there, and if some of them had something wrong with their arms and it was perfectly easy for them to raise their legs, he would have them lift their left leg and then their right leg and so on. The morale and everything else in that ward was much better, there was no question about it, but you had to have a tough sergeant.

One of the main contributions, I think, to the whole business of rehabilitation, and everything else that occurred in the European Theater, was the early mobilization of hands and feet.

We, being sort of back from the front, would receive patients in plaster casts with wounds in the hands, fractured bones, or compound wounds, it didn't matter much. Sometimes the cast would be left on in the hurry and bustle between four and five months, and there was a perfectly useless hand. You couldn't do anything for it.

So, Dr. Cleveland, who was then consultant in orthopedic surgery in the ETO, as he went around from hospital to hospital, said that no man regardless of injury, regardless of the position the bones were in, would be left in any sort of a splint more than three weeks, and it is remarkable the type of hands we got after that.

If we had one, for instance, where the index finger was involved, and the cast was on the whole hand for a period of two or three months, the whole hand was stiff and it took months of education and therapy to ever bring that hand back. If we left the cast on three weeks, the fellow could still use the fingers, and the time getting the man back to duty or getting him out of the hospital, or getting him out of the Army if the hand was bad enough, was cut down just that much.

All of these things come under rehabilitation. These are just a few practical examples, and I think that rehabilitation is certainly coming into all the hospitals. I think it should, because there is no question in my mind that a patient who has gone through a course of training in rehabilitation is in much better physical shape when he gets through than the ones we are in the habit of treating.

Dr. David J. King (Wilmington): This subject of rehabilitation, I think, is very interesting and highly instructive, and I believe it has been well presented and discussed. It always impressed me that the dogs in the experimental laboratory did so well after their surgery. No restraining or immobilization period was issued in the convalescent stages; nevertheless, they did very well. I remember looking at a dog's spine that had been operated on. Dr. Shands had done it sometime in the past, and I asked him how he kept his dog quiet after the operation and he said, "I didn't."

Dr. George J. Boines (Wilmington): I cannot resist the temptation, after hearing such a good description of rehabilitation by Dr. Shands, backed up by Dr. Flinn, to say a few words to bring to their attention what we have been doing in polio during the last four or five years while they have been in the Army. We have been doing exactly that. Medical rehabilitation, muscle training by people who were trained in muscle work, early mobilization and occupational therapy have all been done in Wilmington.

The result has been this: In 1941 when we were using the old methods of treatment our average hospitalization period was 160 days for all patients, paralytic and non-paralytic. In 1945 the hospitalization period was 32 days, and there was a much better improvement than in the patients we had in 1941 in spite of the long hospitalization period. I think this has been more or less of an emphasis in the newer method of rehabilitation and training of patients.

Dr. N. W. Voss (Wilmington): I would like to say that I certainly enjoyed these papers, but I want to also mention that these folks have been dealing with youth. It is very helpful indeed when you have dynamite to get an explosion and get action, but half of my patients are among the older people and the study of geriatrics is quite an interesting one. I frequently go over to the Home of the Merciful Rest and see some of those old ladies, and it is positively astonishing to me to see how they sit around and do a little knitting and almost nothing else and yet they live to be 90, and you seldom see them move an arm or leg or anything else.

You men have another proposition. Dr. Flinn, had the soldier boys who were the pick of the nation to work with. Dr. Shands has the children or youth of the nation, you might say, to deal with. We fellows have the old rheumatics, the arthritics and the fellows who say, "My God, Doctor, don't move that leg." and you have to inspire as well as treat, and believe me, you have a lot of inspiration to hand out sometimes. However, I certainly wish to compliment you men on your excellent papers, and it has been a treat to hear you.

Dr. Shands: In conclusion I wish to thank the discussors for their interesting remarks on a subject which is becoming more and more important in medical practice.

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PARTIAL LOBECTOMY FOR BRONCHIECTASIS*

Case Report

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The occurrence of bronchiectasis following primary atypical pneumonia is apparently not well known, and little has been written on this subject. It is not mentioned as the cause of bronchiectasis in any articles on the subject, except that by E. B. Kay, who reports twenty such cases. Bronchiectasis is a chronic disease in which the symptoms are usually present for several years before a physician is consulted, at which time a history of repeated attacks of pneumonia or respiratory infections is given, which the patient considers to be the cause of his symptoms. "It is rare for patients with bronchiectasis to be seen whose cough, sputum and general debility have been of only several months duration."[1]

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Certain pathological factors are present in primary atypical pneumonia which are conducive to the formation of bronchiectasis. Kneeland and Smetana[2] reported one death in fifty-two cases. The microscopic appearance of the lungs showed occasional septa to be thickened by fibrous tissue and infiltrations consisting of mononuclear wandering cells and polymorphonuclear leukocytes. Some alveoli showed large mononuclear cells arranged in rows about the periphery. An occasional hyaline membrane was present. The mucosa of the larger bronchi and trachea was densely infiltrated by polymorphonuclear leukocytes and mononuclear wandering cells. The epithelial lining cells were prominent and frequently projected into the lumen which contained mucopurulent exudate and debris. In summary the alveoli, interstitium, and bronchi were the areas affected by this disease. The anatomic diagnosis was lobular pneumonia with organization and acute tracheo-bronchitis. Numerous other reports[3] show that it is noted clinically, roentgenologically, and pathologically that atypical pneumonia, in addition to interstitial pneumonitis, may present two factors commonly described in the pathogenesis of bronchiectasis, namely, bronchial and bronchiolar infection and bronchial and bronchiolar occlusion.

The incidence of bronchiectasis following primary atypical pneumonia undoubtedly is small, but no statistics on this complication are available.

Case Report

Miss J. S., student nurse, age 19, was admitted to the medical service on January 16, 1946, complaining of a severe head cold, temperature of 100° F. a non-productive cough. She said she felt "grippy" with generalized aches and chilly sensations for less than 24 hours. Physical examination on admission was negative except for congested nasal mucosa, and a slightly infected throat. Ten months prior to admission, a routine x-ray of the chest was clear. There were no illnesses in the interim. Blood count on admission was R. B. C. 5,200,000; HB 98% (15.3 gm.); W. B. C. 7,500; polys seg. 57%; polys non-seg. 4%; lymphocytes 29%; monocytes, 8%; eosinophiles 1%; basophiles 1%; Sedimentation rate 15 mm. in one hour. Urinalysis was negative. Flat x-ray plate of chest revealed an area of infiltration at the right base extending from the dome of the diaphragm to the eighth posterior interspace. There was no involvement of the costo-phrenic angle. (Fig. I.) A lateral x-ray plate of the chest showed the area to be posterior against the chest wall. Three days later on January 20th, she showed abnormal physical signs for the first time when diminished breath sounds, and fine rales were heard at the right base posteriorly below the eighth rib. On January 20th, four days after admission, her cough became productive and her temperature was normal. She felt fairly well following this, and continued to run a normal temperature though her cough became slightly more productive and she felt weak and tired and had moderate sweats. She was discharged on January 24th, eight days after admission, to go home on convalescent leave.

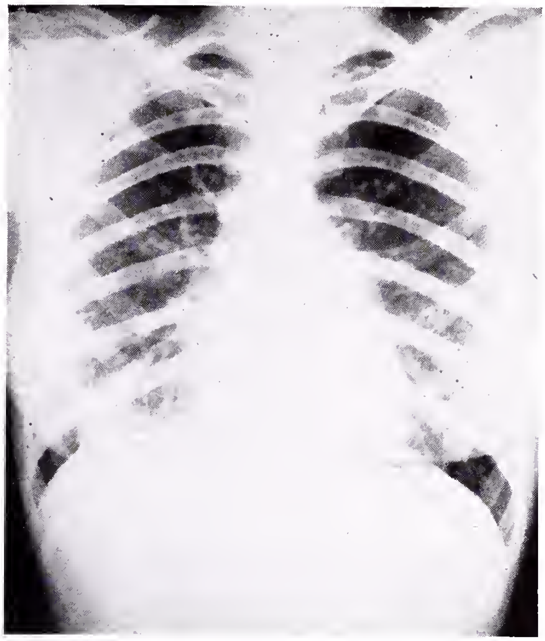

Fig. I. Flat plate showing infiltration at right base.

Her cough gradually became more productive and on February 24th she was readmitted with a temperature of 100° F. Her sputum at this time measured about one ounce in 24 hours. The chest x-ray remained unchanged. She was discharged four days later. On October 14th the patient had a sudden hemoptysis of several ounces of bright red blood. She was hospitalized for bronchoscopy and bronchograms. Bronchoscopy was negative and the bronchograms on November 18, 1946, using lipiodol were reported as follows: "Bronchograms show normal filling of the bronchi in the left lung. The bronchi in the posterior portion of the right lower lobe shows a definite clustering and broadening throughout their entire length. This has the appearance of a cylindrical bronchiectasis. No saccules can be demonstrated. Bronchiectasis can be limited to the posterior portion of the right lower lobe." (Fig. II.)

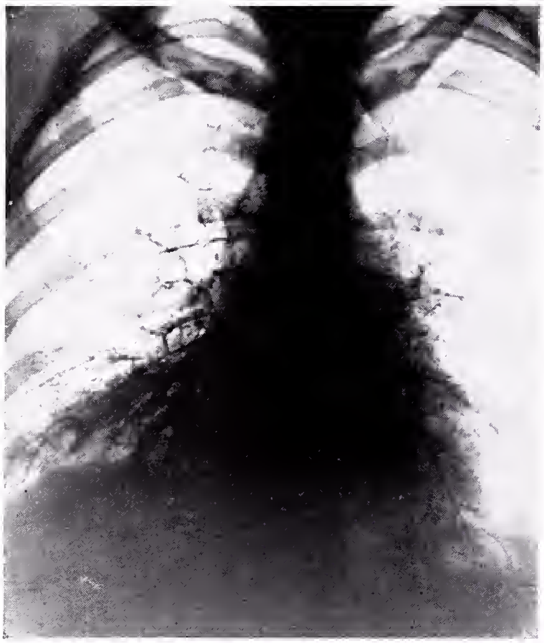

Fig. II. Bronchogram showing cylindrical bronchiectasis.

On November 21, 1946, the patient was operated upon by one of us (C. P. B.), who removed the posterior bronchial segment of the right lower lobe. Her recovery was uneventful, she was out of bed on the third post-operative day and discharged on the ninth post-operative day. She has remained well since.

Grossly the specimen of lung removed at operation measured 8x4x7 cm. Surrounding dilated bronchi there was an area of firm rubbery tissue measuring 5x2 cm. which was sharply demarcated from the surrounding normal tissue. At the periphery of the involved portion, what appeared to be bronchioles were dilated up to $2\frac{1}{2}$ cm. and contained a green-yellow caseous material. Microscopic section of the lung revealed an extensive granulous reaction around small prominent bronchioles. There was extensive hyalinized fibrosis. Evident alveoli were collapsed and showed thickened walls. Throughout the granuloma there were frequent pseudo-tubercles containing amorphous acidophilic caseous centers and numerous foreign body multi-nucleated giant cells. (Fig. III.) A few of the more dilated aveoli were filled with large numbers of foamy, slightly refractile large lipocytes. Sudan IV fat stains revealed positive lipoid-staining material in the giant cells, tubercles, bronchial epithelium, and generally diffusely scattered throughout the fibrosing granulomatous portion. Acid fast stains were negative. Sections through the dilated bronchioles showed edema, epithelial hyperplasia, and surrounding round cell infiltration, typical of bronchiectasis. Diagnosis: bronchiectasis, with foreign body (lipoidal) granuloma.

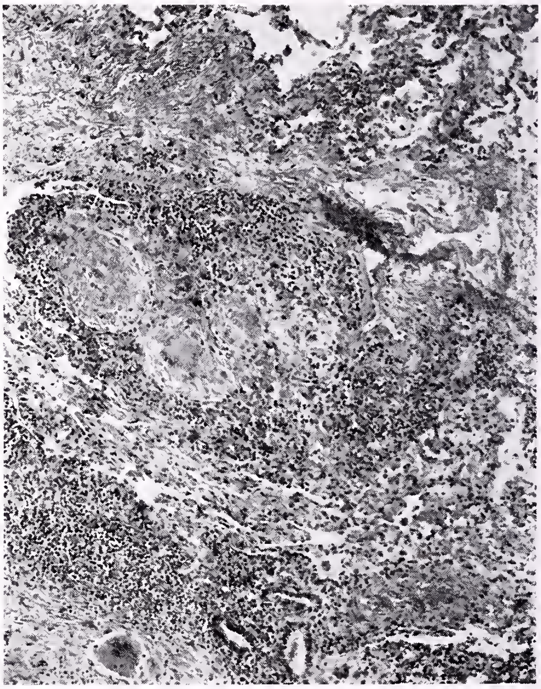

Fig. III. Photomicrograph of Lung (x145) thru lipiodol granuloma showing pseudo-tubercles, foreign body giant cells, round cell infiltration and dilated bronchioles.

Comment

The use of iodized oil in bronchograms for diagnostic purposes is not uncommon; it has generally been assumed to produce no local reaction and to be readily disposed of by the body. Numerous animal experiments[4] are recorded indicating that the use of iodized cells are innocuous. A few cases of tissue reaction to iodized oil are reported.[4,5] Some observers have suggested that such a tissue reaction is "the normal walling off of a foreign body that cannot be removed rather than a reaction attributable to the chemical nature of the oil."[6]

Dr. R. P. Custer[7] commenting on the lungs studied during the war at the Army Medical School Institute of Pathology reports that granulomatous changes following lipoidol were not uncommon in their series. In this case there is marked tissue change present one month after the installation of the oil. These findings suggest that, while the installation of iodized oil may be without reaction and eventually removed in normal lungs, in those showing pathology a granulomatous reaction may occur.

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STREPTOMYCIN IN TYPHOID FEVER*

Report of a Treatment Failure

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The status of streptomycin in the treatment of typhoid fever has not been completely established at this date. The questions of fatality rate reduction, favorable influence on complications, maximum drug dosage, and acquired *in vivo* resistance remain to be fully answered. Although apparently a treatment failure, this case is presented to illustrate the ramifications of such an infection, its treatment with an antibiotic, and the problems that arise therefrom.

Case Report

The patient, a twenty-four-year-old Negress, was admitted to this hospital on July 16, 1946, with a chief complaint of chills and fever. The onset of illness occurred five weeks prior to admission, and was initiated by severe shaking chills which were irregular in occurrence and duration. At that time a diagnosis of upper respiratory infection was made, and temporary improvement was noted under symptomatic therapy. After several days, however, hemoptysis and night sweats occurred. These findings, along with a previous history suggesting pulmonary pathology, warranted hospital admission for further study.

On admission, a young, emaciated, delirious and acutely ill, colored female was observed, with a temperature of 106° F., pulse rate of 105, and an essentially normal physical examination. Admission laboratory studies showed:

> RBC, 4.1 million; Hemoglobin, 10.6 gm.; WBC, 7,700 with a marked left shift. Urinalysis showed a specific gravity of 1.021, a 2 plus albumin, and a normal microscopic. Serology, negative on blood and spinal fluid. Febrile agglutinins were negative, except for a positive titer of 1:20 against typhoid O, and a 1:80 titer against typhoid H antigens (these increased to titers of 1:160, 6 days later), and negative sputum and cerebrospinal fluid findings.

Two x-ray films of the chest showed no pathology.

Eberthella typhosa was isolated from blood, urine and rectal cultures made on the 5th and 8th hospital days. This strain showed a sensitivity to streptomycin of 10 mcg. per ml., using a two-fold tube dilution in modified nutrient broth,[1] controlled with a standard reference strain of *B. circulans* (regularly inhibited by 0.3 mcg. of streptomycin). These cultural findings confirmed the clinical impression of typhoid fever, suggested by a later statement of the family that the patient suffered 8 to 10 foul-smelling, watery stools daily, two weeks before admission.

Having fulfilled the bacteriological and sensitivity requirements for a clinical trial of streptomycin therapy, 28 gm. of the hydrochloride* was promptly obtained through the courtesy of Dr. Chester S. Keefer**, who recommended that it be given in 4 gm. daily dose. by intermittent intramuscular injection. Starting on the 8th hospital day, 0.5 gm. of the drug is 5 ml. of isotonic sodium chloride solution was administered every three hours. for 7 days. During this time the temperature fell and cultures became negative; but the patient suffered a severe hemorrhage from the bowel, with a fall in RBC to 1.8 million. Two 500 ml. whole blood transfusions were administered, and the patient responded satisfactorily, with no further bowel complications.

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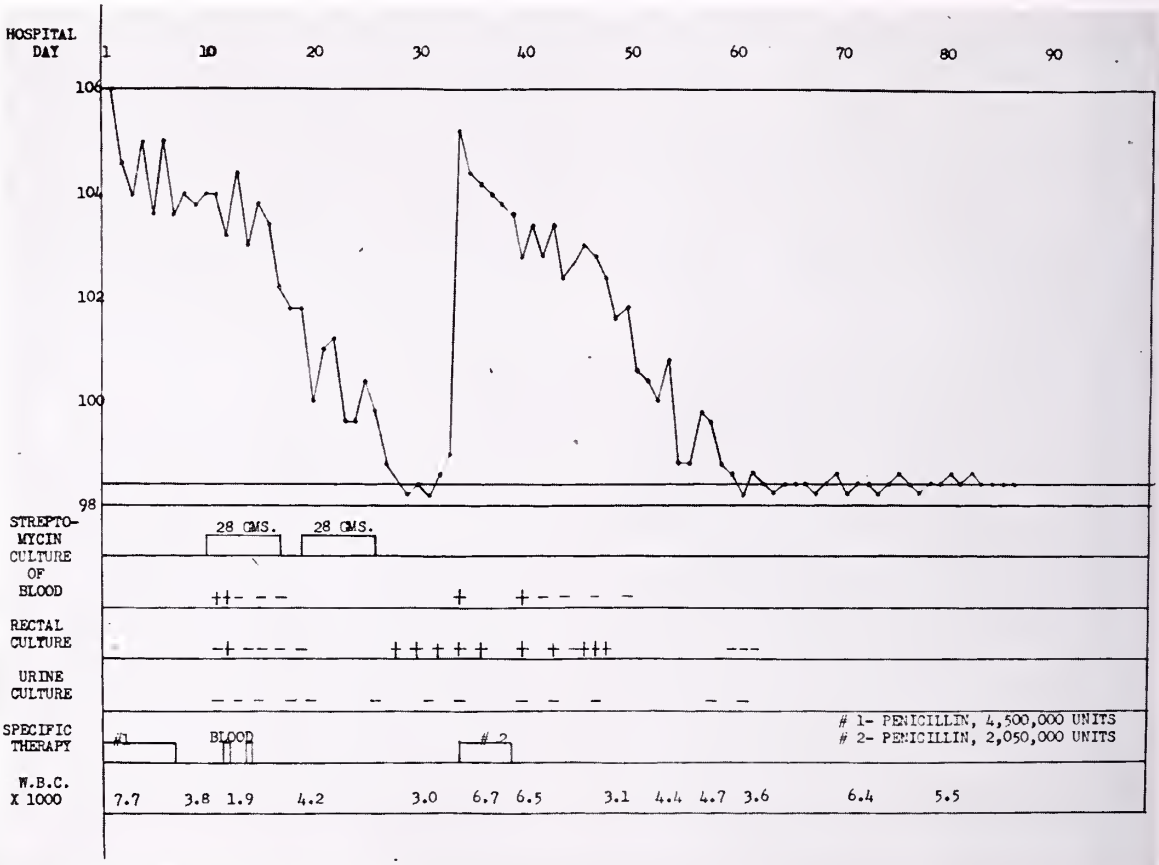
Due to a misunderstanding, there was a delay in obtaining the second 28 gm. course of streptomycin, the patient being without the drug for 2 days. Following the administration of this lot (given as previously described), there was no alteration in a rather favorable course. The temperature became normal one day after completion of this course (27th hospital day), and remained normal for one week. Streptomycin blood levels[1] averaged 80 mcg. per ml. of serum (40-320 mcg./ml.) during both courses of therapy.

On her 33rd hospital day the patient suffered a severe relapse, with abrupt rise of temperature (see chart), and a return of positive blood and rectal cultures. The *Eberthella typhosa* isolated from these cultures showed a streptomycin sensitivity of 300 mcg. per ml., a *thirtyfold increase in resistance* over the original isolation. Two million units of penicillin were administered intramuscularly, along with symptomatic therapy. During a prolonged convalescence of 50 days, the temperature became normal by lysis, and the patient was discharged in an improved condition October 10, 1946, 90 days after admission.



DISCUSSION

From the accumulated evidence in the treatment of 51 cases of typhoid fever with streptomycin, Keefer et al[2] concluded that the

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[*] Supplied through the kindness of Merck and Co., Rahway, N. J.

[**] Chairman, Committee on Chemotherapeutics and Other Agents, National Research Council.

results were disappointing. The majority of patients received 4 grams of the drug parenterally for about 7 days, and when given after the 18th day of illness, normal temperatures occurred only after the 28th day. Combined oral and parenteral therapy was apparently no better than parenteral therapy alone. The question of whether the drug if given in the first 7 days, would shorten the duration, was raised. No increased *in vitro* resistance studies were reported.

The problems of the treatment of a deep-seated infection with streptomycin have been considered in many recent reports. Reiman et al[3] were the first to point out that if typhoid bacilli reside and multiply in plasma cells and macrophages, they may not be affected by streptomycin unless they escape into the blood and tissues. Bondi et al[4] noted that streptomycin activity was markedly reduced under *in vitro* anaerobic conditions, and suggested that in parts of the body where a reduced oxygen tension existed, as in the feces, greatly increased concentrations of the antibiotic may be necessary to inhibit growth. Welch et al[5] reported that streptomycin in minimal dosage exerted a growth-stimulating effect and an increased fatality rate in white mice injected intraperitoneally with *E. typhosa*.

From a series of carefully controlled experiments Klein and Kimmelman[6] concluded that the *in vitro* development of streptomycin resistance in 12 strains of shigellae was the result of spontaneously occurring resistant variants, which selectively developed in high concentrations of streptomycin. These authors suggested that in a culture isolated from a clinical infection, a large number of susceptible cells may occur along with a few resistant variants, the latter not being detected by the conventional methods of susceptibility testing (wherein relatively small inoculums are used). When streptomycin therapy is instituted, the susceptible bacteria are rapidly eliminated. If the body defenses do not destroy the resistant forms, these then may multiply to a point where even maximum drug concentrations would not eliminate them.

Such a condition is well illustrated in a clinical report recently presented by Bondi et al.[7] Two cases of urinary tract infections were unsuccessfully treated by streptomycin, due to the development of a resistant variant. These authors demonstrated the presence of this variant in the *original parent culture* (sensitivity 1 mcg.) by testing the susceptibility of a large population (5 billion cells) of this culture and noting the development of 2 colonies not inhibited by 1000 mcg. of streptomycin. These variants appeared to remain permanently resistant, both *in vitro* and *in vivo*.

These observations, along with the fact that *in vivo* streptomycin resistance can occur extremely rapidly (24 hours), may serve to explain the treatment failure in the case presented. It appears probable that if streptomycin reached the intestinal walls in less-than-bactericidal concentration during the first course of treatment, the 2 day lapse before the second course was started may have permitted the development of a resistant variant, the multiplication of which initiated the subsequent clinical relapse.

Conclusions

A case of typhoid fever treated with 56 gm. of streptomycin, has been presented. The drug was given in two courses of 28 gm. (each course 4 gm. a day for 7 days), administered by the intermittent intramuscular route. There was in interval of 2 days between courses when no drug was given. The *E. typhosa* first isolated from blood cultures was inhibited *in vitro* by 10 micograms of streptomycin, a subsequent isolate after completion of therapy requiring 300 micrograms for inhibition. Adequate blood serum levels were attained. No evidence of local reaction, histamine-like effects, sensitization or neurological disturbances was noted. The patient suffered a clinical typhoid relapse, with a recurrence of positive blood cultures 9 days after streptomycin had been discontinued, and made a slow but uneventful convalescence. The mechanism of increased streptomycin resistance was discussed. It is concluded from the case presented that streptomycin exerted at best only a palliative effect, and its place in the treatment of typhoid fever has yet to be established.

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EOSINOPHILIC LEUKEMIA*

Case Report**

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Eosinophilic leukemia is a rare disorder. Most of the papers dealing with the disease are merely case reports since no one author has collected enough material to satisfactorily analyze the disease. However, in review ot the cases reported up to 1938 Forkner[1] lists six cases of acute eosinophilic leukemia and about a dozen collected cases of chronic eosinophilic leukemia. In the reported cases the counts vary greatly in numbers of leukocytes per cmm., the lowest being 6,900 and the highest 236,000 cells per cmm.

This case is presented as an example of the difficulty of making the diagnosis of eosinophilic leukemia in the absence of a very high white count.

Obviously the blood count on an individual with eosinophilic leukemia will show a marked increase in the numbers of eosinophiles. However, in those individuals with a white blood count which is not remarkably elevated a problem of differential diagnosis arises. In many parasite disorders eosinophilia may be as high as 70%, particularly in trichinosis. In normal individuals 10-25% eosinophilia has been demonstrated with no other abnormalities noted and no disease extant. Therefore, eosinophilia itself may not mean disease. Allergic disorders rarely may cause a high eosinophilia and it has been observed that the bite of the black widow spider causes marked eosinophilia. In cases of periarteritis nodosa the eosinophilia is frequently as high as 70% and in occasional instances the total white count may be as high as 50,000 cells per cmm. Patients receiving liver therapy for pernicious anemia show an increase in the eosinophile count in about 30% of the cases.[2]

Case Report

The patient, G. H., a 55-year-old white married male truck driver, first entered the Delaware Hospital in September, 1945, complaining of weakness and a productive cough of eight months' duration. Initial studies revealed a moderately severe macrocytic, hyperchromic anemia, and a leucocytic count of 19,000 with 72% eosinophiles. The eosinophilia persisted, the leucocytes ranging between 5,400 and 39,000 and the eosinophilia between 40-82%. (Fig. I). Repeated studies, which included blood and sputum cultures, repeated stool examinations for ova and parasites, and skin tests for trichinosis— all were within normal limits. Microscopic examination of the sternal bone marrow, obtained by sternal puncture, revealed appreciable increase in adult eosinophilia corresponding in maturity to those seen in peripheral blood. There appeared to be no tendency to leukemia hyperplasia, but there was a surprising deficiency of young red cells.

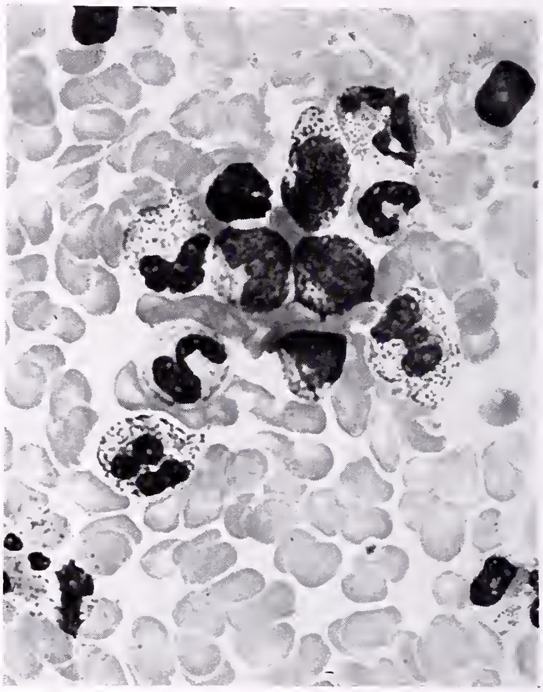

Fig. 1. Peripheral blood smear (x945) showing marked increase in number of eosinophiles.

Blood complement fixation studies at the U. S. Public Health Service Laboratory at Bethesda, Maryland, revealed negative reactions for trichinosis and amebiasis, but a positive complement fixation for echinococcus disease. At that time the Public Health Service cautioned that the test might be unreliable due to the age of the antigen. The patient improved on symptomatic treatment, and was discharged on November 6, 1945.

During the ensuing eight months, under the care of his physician, he received eighteen blood transfusions because of increasingly severe anemia. The high eosinophilia continued. Because the patient became discouraged at "living on other people's blood," he ran the usual gamut, finally resorting to "manipulators" in an effort to cure his weakness and restore his blood to normal.

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** From the services of Dr. B. B. G. Blackstone, Dr. M. F. Squires and Dr. J. M. Messick.

In May, 1946, he was readmitted to the hospital with a provisional diagnosis of echinococcus disease. Additional multiple, vague complaints included frontal headache, "crick" in the neck, which was aggravated by motion, and soreness in the region of the right sternocleidomastoid muscle, which was not constant, but which radiated to the right shoulder. The cough now occurred chiefly after being in the recumbent position for a few hours, and was productive of a frothy sputum. There was no history of allergy. He had noted slight edema of the ankles, but not of the face. He complained of gnawing abdominal pains which occurred without periodicity and were not influenced by eating. Borborygmus and meteorism were constant complaints. There had been a total weight loss of 30 pounds. Finally, he complained of impotence which began with the onset of his illness.

The patient had resided in Delaware, except for a two weeks' vacation, and a few motor trips to Florida. He had had no contact with animals other than his own dog and cat, both of which has been obtained after the onset of symptoms.

Physical examination revealed a pale, lethargic and extremely discouraged white male, apparently in his sixth decade, who was in no acute distress. The positive physical findings included some limitation of motion in lateral rotation of the head with an audible "clicking" sound in the neck, slight tenderness over the frontal areas, a slight post-nasal discharge, and poor oral hygiene with several loose, carious teeth. The liver was palpable 4 cm. below the costal margin in the midsternal line. The surface was smooth, and the edge was sharp. The spleen was palpable 5 cm. below the left costal margin. There was moderate atrophy of the muscles of the right upper arm, the difference in circumference between the right and left sides being 2½ cm. The remainder of the physical and neurologic examinations were negative.

Laboratory studies showed: Hemoglobin 10 gm. (64%); R. B. C. 2,900,000; W. B. C. 18,200; polys 19%, of which 2% were nonsegmented; lymphocytes 17%; basophiles 1%; eosinophiles 63%. Repeated urinalyses were negative, including a spectrographic test for porphyrin. Numerous examinations of the stools failed to reveal the presence of ova, parasites, or occult blood. Sputum and nasal smears were negative for eosinophils. Gastric content contained free hydrochloric acid. The sedimentation rate was 27 mm. in 60 minutes using Cutler tubes. Blood serology was negative. The blood type was Type A, Rh positive. Roentgenologic examination of the entire gastro-intestinal tract was negative; examination of the cervical spine revealed an old fracture of the fifth cervical vertebra.

Pathological examination of a biopsy taken from the right biceps muscle revealed no evidence of parasites or of any vascular abnormalities in more than 100 sections studied.

Because studies had failed to reveal a definite etiologic basis for the eosinophilia, and because the provisional diagnosis of the echinococcus disease as suggested by the positive complement fixation test had not been confirmed, it was decided to investigate the liver roentgenographically to exclude, if possible, the presence of cysts of this organ. Accordingly, a hepatogram was made with the aid of thorotrast. Following the technique of Yeater, et al,[3] the thorotrast was injected intravenously every 24 hours in three consecutive days, and the roentgenogram was made on the fourth day. The visualization of the liver and spleen were entirely normal and there was no evidence of cysts. (Fig. II). The patient had no ill effects from this study.

A sternal biopsy was performed and microscopic examination of the sternal marrow revealed hyperplasia consisting almost entirely of eosinophils, the majority of which were mature. There were numerous young eosinophils. In the adult forms the eosinophilic granules were spotty and frequently sparse in number, similar to those in the peripheral smear. The marrow showed marked depletion of the erythropoietic elements, and there were few neutrophiles. Megakaryocytes were common.

A diagnosis of chronic eosinophilic myelogenous leukemia was made and the slides and clinical history were reviewed by Dr. R. P. Custer who concurred with the diagnosis.

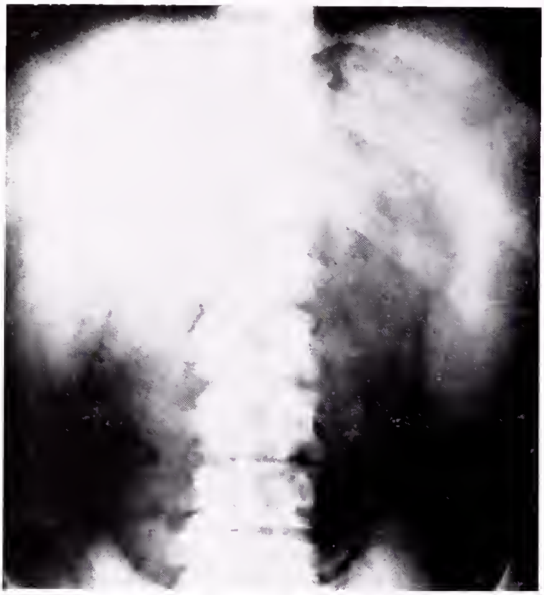

Fig. II. Thorotrast visualization of liver and spleen showing no abnormalities.

From the beginning the diagnosis of eosinophilic leukemia was considered, but because of the rarity of the disease and numerous other causes of eosinophilia all other possibilities were ruled out before the diagnosis was made. In the study of this patient every effort was made to determine a cause of eosinophilia other than eosinophilic leukemia. All efforts were unsuccessful.

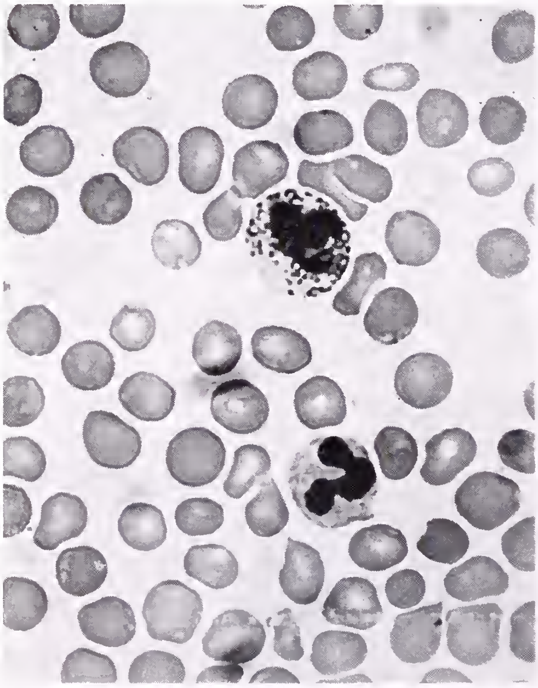

Fig. III. Peripheral blood (x850) showing sparsity of eosinophilic granules.

The finding of a few scattered eosinophilic granules in the cytoplasm of the eosinophile, instead of the hundreds usually seen, is reported as being typically diagnostic of eosinophilic leukemia.[4] These findings were noted in this case in the peripheral blood (Fig. III) and in the bone marrow. On the basis of the clinical history, marked anemia, atypical eosinophiles in the blood and bone marrow, and the inability to find any other cause for the eosinophilia a diagnosis of eosinophilic leukemia was made.

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DIAPHRAGMATIC EVENTRATION*

Case Report

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Eventration of the diaphragm is a condition in which one of the domes of the diaphragm is in the form of a thin fibrous sheath ballooned up into the thorax by the pressure of the abdominal viscera on the affected side. The effect of the displacement of viscera to the thoracic level may produce symptoms of a severity to require medical attention. The following case is presented to demonstrate the diagnostic radiological findings and the symptoms of a marked left diaphragmatic eventration.

J. O., a twenty-three-year-old white male, complained to his doctor that for the last year he has had a pulling sensation through the upper abdomen. This was also associated with slight pain and passing of gas about 1½ to 3 hours after a heavy meal. Bending forward or doubling up seemed to relieve his distress.

He gave a history of having been perfectly well until the age of seventeen when he was injured in an automobile accident. Although he had severe left shoulder and chest contusions, there was no x-ray evidence of fracture. However, he coughed small amounts of bright blood immediately after the injury and had severe pain through the upper left chest, shoulder, and neck. This persisted along with neck stiffness for several months. He was able to return to work and felt well until the present symptoms began one year ago. He has been doing industrial painting for the past one and one-half years. Three years ago he was told he had a high left diaphragm after a check-up chest film for merchant marine service.

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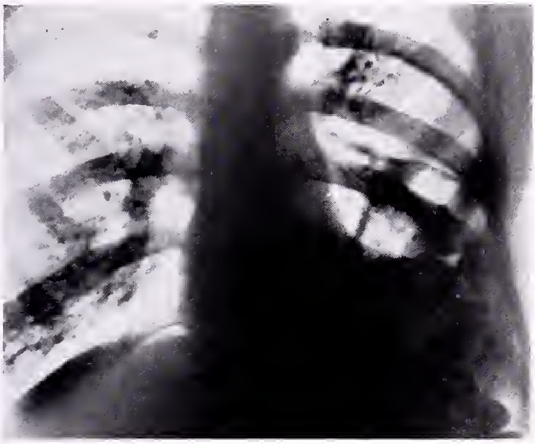
Fig. I. Film taken in the upright position shows barium entering the cardia at the normal level and passing upward through the inverted stomach.

Fluoroscopic examination at the present time showed a normal right chest and diaphragm. The dome of the left diaphragm was elevated to the level of the fourth anterior interspace and contained gas from both the stomach and large bowel. The thin diaphragm showed no movement with respiration.

Barium passed through the esophagus without delay and entered the stomach at the normal level. There appeared to be a complete reversal of the position of the stomach, the cardia pointing downward and the body upward, extending into the dome. The pylorus was then seen to be directed downward toward the fundus. All of the stomach as well as the duodenal cap filled well fluoroscopically. A twenty-four-hour film showed the head of the meal in the descending colon. Particles of barium were seen to extend above the normal level of the diaphragm in the gas distended splenic flexure. After it was determined that there was no movement of the high left diaphragm, a diagnosis of eventration was made.

The radiographs show the anatomic relationships and distortion described: (Figs. I, II, III).

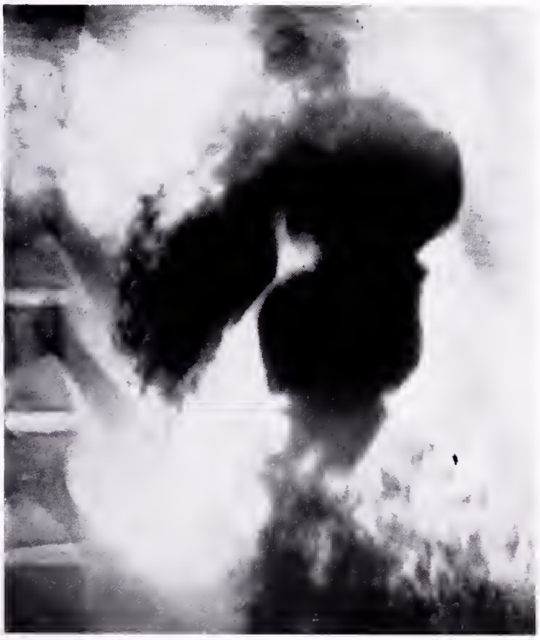
Fig. II. Film taken in the Trendelenberg position shows the extreme rotation of the stomach.

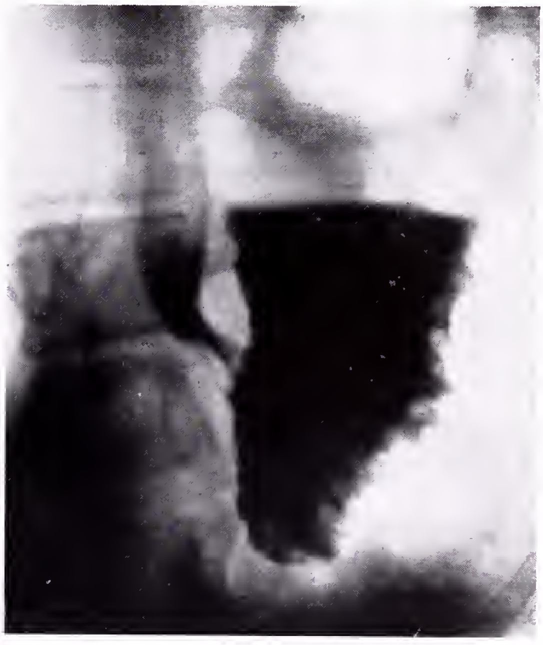
Fig. III. Eventration of the left diaphragm. Notice the high position of the stomach bubble and flecks of barium in the splenic flexure, contained under the intact diaphragm.

Etiology

The condition is described as being the result either of congenital defects or of a disturbance of the phrenic nerve supply. The roentgenologic appearance is similar in any case. Since phrenicectomy has been a recognized form of treatment in pulmonary tuberculosis and other pulmonary illnesses, eventration from this cause is most frequently seen at the present time. A certain number of cases of eventration also are the result of phrenic nerve paralysis acquired by wounds in the neck or by pressure in the neck or thorax, especially mediastinal tumors.

In the absence of a history of phrenic nerve injury, the etiology is obscure but is attributed to idiopathic or congenital defects. Whether the primary defect is in lung development with a secondary elevation of the diaphragm or whether the diaphragmatic relaxation is primary, has not been shown. Since most congenital diaphragmatic eventrations are left sided, it is possible that chronic overdistension of the stomach and colon may be a factor in stretching the congenitally weak diaphragmatic musculature. The solid liver mass on the right protects this side from tension.

Pathology

The dome of the relaxed diaphragm is displaced upward two to three interspaces, usually to about the level of the fourth interspace anteriorly. It consists of a serosal-covered, thin, fibrous sheath in which the musculature is atrophic or almost absent.

Symptoms

Usually diaphragmatic eventration produces no symptoms. When present, they are referable to disturbances in gastro-intestinal function and in some cases to pulmonary and cardiac embarrassment.

Pain, which is the most common symptom, is variously described as a tugging, burning, bloating or sensation of a mass in the epigastrium. The pain may be referred to the back, upper thorax, left shoulder or arm, and may be initiated or aggravated by eating, strenuous work and exercise.

Radiological Findings

The diagnosis of diaphragmatic eventration is made from x-ray findings and is to be differentiated from diaphragmatic hernia.

The outline of the diaphragm on the left is high and bowlike with the air filled fundus and splenic flexure beneath. The dome forms a smooth arc, occasionally this is interrupted by a small notch which is located at the superior point of apposition between the colon and fundus. The dome on the right side is not elevated and shows no gas beneath.

The demonstration of a high diaphragm that shows paradoxical movements or no excursion at all is of prime importance in the differentiation from hernia of the diaphragm. Thus, careful fluoroscopic observation and adequate films in all positions are necessary. The movements, sometimes absent, are more commonly paradoxical, exhibiting an upward excursion on inspiration, and vice versa. With herniation, if any part of the diaphragm is visible, it exhibits a normal respiratory excursion.

Gastric deformity is an additional x-ray finding which is fairly constant. There are various degrees of upward displacement of the greater curve of the stomach which rotates on its fixed points at the cardia and pylorus. The fundus and pylorus as a result of the torsion, may become the lowest portions of the stomach, as demonstrated on these radiographs.

When a barium meal is given, the opaque medium is seen to enter the fundus at a low level and travel upward and over the lesser curvature at an acute angle to the pylorus, which usually lies close to the fundus. The resulting bilocular appearance may amount almost to that of a volvulus. A film taken twenty-four hours after the ingestion of the meal may show barium at the thoracic level in the splenic flexure of the colon.

Lung tissue is visible through the dome of the diaphragm if the gaseous distension of the stomach is considerable and the lung posteriorly is normally expanded.

The contour of the diaphragm, its position, and the nature of its movements present the most constant and diagnostic signs of eventration.

Palliative measures are usually unsucessful in the treatment of diaphragmatic eventration. Surgical repair is also unsatisfactory.

SUBACUTE BACTERIAL ENDOCARDITIS DUE TO AN H. INFLUENZAE - LIKE ORGANISM*

Case Report

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The use of streptomycin in certain cases of bacteremia due to Gram-negative bacilli seems well established, since evidence shows that the drug not only exerts a favorable effect in clearing the blood stream of organisms, but also influences favorably any local infection at its site. Keefer et. al.,[1] reporting on streptomycin in infections, include eight cases of bacteremia in which the infecting organism was *H. influenzae*. All of these patients improved or recovered.[2]

Alexander and Leidy,[3] working with type b *H. influenzae*, suggest a high degree of sensitivity of this organism to streptomycin. Experiments indicate that the protective power of streptomycin for mice against this organism is equal if not superior to the combined use of sulfadiazine and specific serum or sulfadiazine alone. The use of streptomycin therapeutically apparently avoids the danger of toxicity associated with the prolonged administration of sulfonamides.

Logan and Herrell,[4] in commenting on the use of streptomycin in *H. influenzae* meningitis in children, corroborate the efficacy of the drug; particularly the clinical and laboratory improvement following its use after the apparent failure of sulfadiazine and serum therapy. A certain parallel may be seen in the case presented here.

The following case is reported as one of septicemia due to an atypical *H. influenzae* superimposed on a long-standing mitral insufficiency of probable rheumatic origin.

The case is significant in: (1) the absence of an obvious primary site of infection, and (2) the response to streptomycin therapy suggesting prompt sterilization of the blood stream after an active course of six weeks' duration. Streptomycin was administered, after a short preliminary trial of sulfadiazine, in order to avoid an incipient sulfonamide toxicity, as evidenced by renal irritation and a decline in the hemoglobin and red blood cell count.

Case Report

M. F. D., male, white, age 59, was admitted to the Medical Service of the Delaware Hospital on September 3, 1946, complaining of daily chills and fever of six weeks' duration, occurring after prolonged exposure to sun while fishing. Following this onset the patient had been admitted to another hospital, where numerous blood smears were reported negative for malarial parasites, and a vigorous but ineffective course of penicillin therapy was carried out. Twenty-four hours before the present admission he developed a sudden and severe pain in the left upper quadrant and flank which lasted 8 to 12 hours. He vomited once on the day of admission and reported a weight loss of 15 to 17 pounds during his illness. The past history significantly revealed scarlet fever during adolescence in France, complicated by a known "heart murmur." This murmur had persisted, and, at the age of 21 years, x-ray reported an "enlarged heart." In 1941 he had been hospitalized for "gall bladder colic."

Physical examination on admission showed a temperature of 98.6 F., pulse rate 120 and respirations 28. He appeared acutely but not critically ill. The skin over the lower extremities showed several small superficial areas suggesting petechiae. The buccal mucosa showed scattered patches of a whitish, mucoid exudate. The posterior nasopharynx was slightly injected. There was no regional or general glandular enlargement. The chest was symmetrical and expanded equally; the lung fields were clear to percussion and auscultation. The cardiac rhythm was regular. The apical impulse was in the fifth interspace in the mid-clavicular line. There was a grade III systolic murmur at the cardiac apex and to the left of the sternum. The abdomen was resistant to palpation and diffusely tender in both upper quadrants. Neurological examination was not remarkable; there was no meningismus.

Laboratory studies revealed R. B. C. 4.3 million; Hb. 12.3 gms. (78%); W. B. C. 16,700; segmented polys 84%; non-segmented polys 7%; lymphocytes 5%; monocytes 2%; eosinophiles and basophiles each 1%. Subsequent blood counts showed a persistent decrease in the hemoglobin and red blood cell counts to 7.9 gms. (50%) and 2.9 million, respectively. Urinalysis was essentially negative except for one plus albumin. The blood urea nitrogen was 19.0 mgms. % and the fasting blood sugar 108 mgms. %. On September 6, a scanty growth of E. coli and an enterococcus occurred in culture of the urine. Scrapings from the petechial lesions showed no growth after 3 days' incubation. Routine febrile agglutinations including typhoid, paratyphoid, brucella, tularense, and proteus antigens were negative in all dilutions. The erythrocyte sedimentation rate was 26 mm. in 60 minutes. Chest x-ray showed the cardiac outline within upper normal limits but some increase in the vascular markings of both hilar trunks.

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Bacteriological studies of the organism isolated on September 4, 1946, carried out by Mr. E. G. Scott, bacteriologist, Delaware Hospital, revealed a small, filamentous gram-negative rod first isolated from blood culture, and on 3 subsequent cultures. The organism grew as a non-hemolytic, convex colony 1-2 mm. in diameter, with an entire margin. Growth occurred slowly (2-4 days) but most abundantly on tryptose agar with 5% human blood, in 10% CO_2 at 37° C., and less readily on chocolatized proteose-peptone agar and fluid thioglycollate medium. No growth occurred on any of the above solid media incubated anaerobically, or at room temperature. Nu-

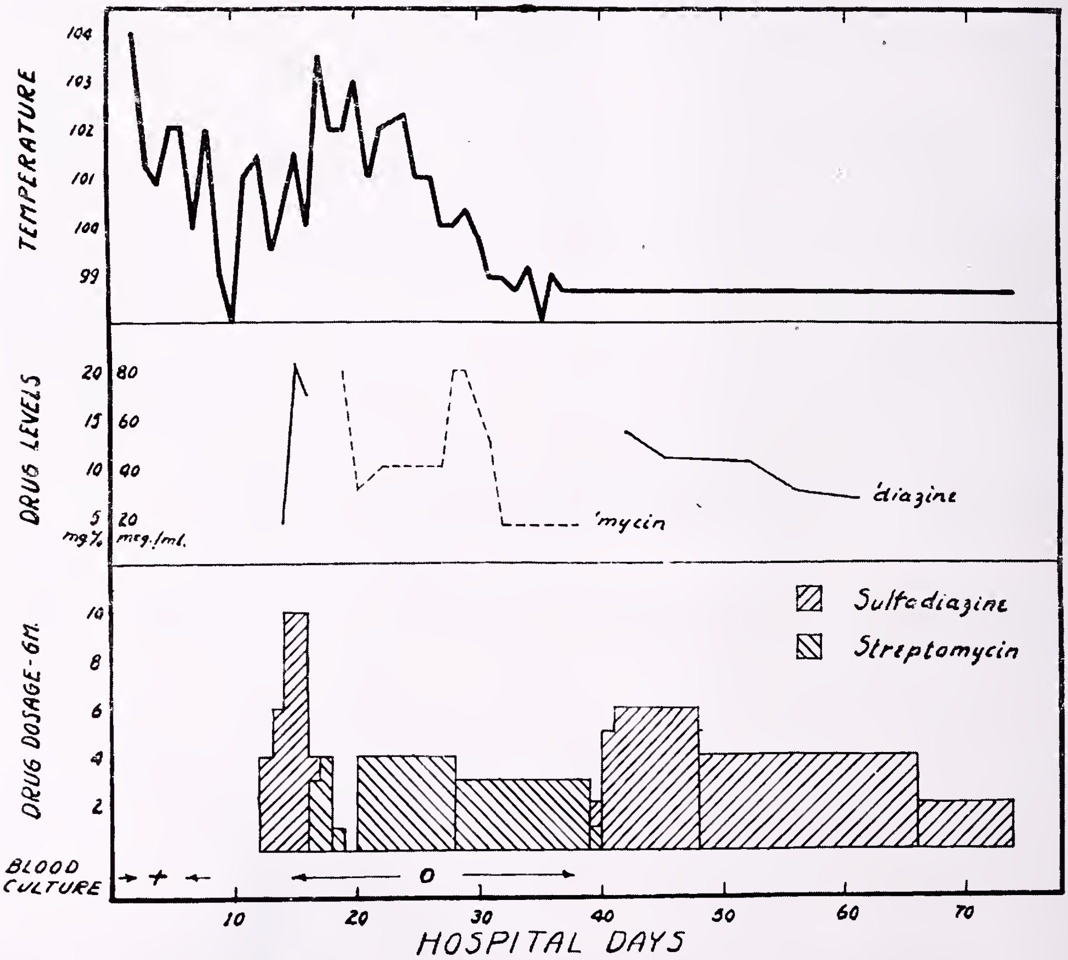

Fig. 1. Course of illness.

trient agar or tryptose broth did not support growth under any conditions. On a semisolid tryptose agar with ascitic fluid, the organism was non-motile, and promptly fermented dextrose, maltose, saccharose and lactose with the production of acid but no gas.

Agglutinations with anti-Brucella and anti-P. tularense sera were negative, and repeated attempts to demonstrate capsular swelling with anti-H. influenzae type b serum were negative, with a suggestion of a capsule in some preparations. The organism was finally considered to be an atypical member of the *H. influenzae* group.

In vitro studies with increasing concentrations of streptomycin showed the organism to be very sensitive to this antibiotic, being inhibited by 5 micrograms per ml., and growing in 1 microgram per ml.

On the day following admission the temperature spiked to 104 F. following a spontaneous chill. The temperature continued in a hectic course ranging from normal to 102 F. for eleven days, at which time intravenous and oral sulfadiazine were given to a maximal blood level of 20.3 mgms. % in 72 hours. On September 18, fourteen days after admission, sulfadiazine was discontinued and streptomycin therapy was begun in dosage of 4 gms. daily, 0.5 gms. q. 3 hours, by intramuscular injection. This dosage was continued and a daily blood level (taken at the end of the 3rd hour) of 40 micrograms per ml. serum (technic of Food and Drug Administration using B. circulans) was maintained for fifteen days, until October 1, except for a period of thirty-six hours 3 days after instituting therapy, when a progressive rise of temperature over a period of 48 hours suggested a toxic reaction to the drug. On resumption of therapy the temperature regressed gradually over eleven days, at which time streptomycin dosage was reduced to 2.4 gms. daily with average daily blood levels (taken at the end of the 3rd hour) of 15 micrograms per ml. serum until October 11, when the drug was discontinued and oral sulfadiazine resumed. Sulfadiazine blood levels of 13.0-15.0 mgms. % were maintained for two weeks and then discontinued after a period of slow withdrawal. Twenty blood cultures during and after cessation of therapy were negative for the infecting organism.

Supplementary therapy consisted of: parenteral fluids to maintain adequate water balance; two transfusions of whole citrated blood, each 500 cc., to combat an anemia of a hypochromic microcytic type apparently following intensive sulfonamide therapy; ascorbic acid 300 mgms. daily; and, when tolerated, a high caloric diet containing 125 gms. protein.

During the acute phase of his illness the patient developed sudden, transient and acute recurrences of left upper quadrant pain interpreted as multiple splenic or renal infarctions. These episodes could not be correlated with the periodic hematuria evidenced by frequent urinalyses. Local pain at the site of streptomycin injections was not alleviated by the addition of 0.75 ml. of 1% procaine to each dose. The streptomycin blood level, however, was apparently not affected by the use of the procaine. Throughout the period of observation there was no change in the character of the apical systolic cardiac murmur. An electrocardiogram taken on October 29, was essentially normal except for unusually large T waves in the precordial leads.

After hospitalization of 42 days the patient was discharged to continue convalescence at home under the care of his private physician. A blood culture on December 17, 1946, showed no growth after 10 days' incubation. The patient's subsequent course is reported satisfactory.

Summary

1. A case of subacute bacterial endocarditis due to *H. influenzae*-like organism successfully treated with streptomycin and sulfadiazine is reported.
2. The organism was sensitive *in vitro* to streptomycin.
3. Although the patient developed an apparent toxic reaction to heavy sulfonamide administration during the early therapeutic course, sulfadiazine was given later as supplemental therapy without untoward effect. It is presumed that the earlier findings were related to the blood stream infection rather than sulfonamide toxicity.

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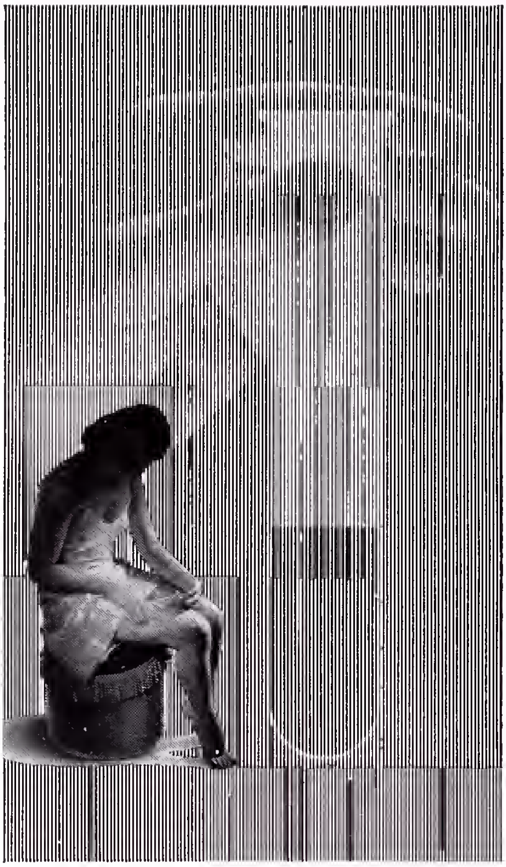

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This starting diet may subsequently be adjusted as required to suit the needs of the patient. Final adjustment of carbohydrate distribution may be based on fractional urinalyses.

ADJUSTING TO 24-HOUR CONTROL: Simultaneously adjust the Globin Insulin dosage to provide 24-hour control as evidenced by a fasting blood sugar level of less than 150 mgm., or sugar-free urine in the fasting sample.

'Wellcome' Globin Insulin with Zinc is a clear solution, comparable to regular insulin in its freedom from allergenic properties. Available in 40 and 80 units per cc., vials of 10 cc. Accepted by the Council on Pharmacy and Chemistry, American Medical Association. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Patent No. 2,161,198. LITERATURE ON REQUEST.

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Globin Insulin
WITH ZINC

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ONLY THE ACTIVE GLYCOSIDES OF DIGITALIS

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DIGIFOLIN

DIGIFOLIN CONTAINS THE ACTIVE GLYCOSIDES OF DIGITALIS LEAVES BUT IS FREE OF INERT AND UNDESIRABLE MATERIALS SUCH AS SAPONINS. ONE "CAT UNIT" OF DIGIFOLIN IS EQUIVALENT TO 1 U.S.P. XII DIGITALIS UNIT. SUPPLIED AS AMPULS, 2 CC., TABLETS, 1½ GR., AND ORAL SOLUTION.

DIGIFOLIN—TRADE MARK REG. U. S. PAT. OFF. AND CANADA—BRAND OF DIGITALIS GLYCOSIDES

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PROMPT, PROLONGED RELIEF OF CONGESTION

Privine Hydrochloride promptly shrinks congested nasal mucous membranes. Its vasoconstrictive action lasts for several hours. Added to this basic action, Privine meets the prime criteria for a vasoconstrictor: it is non-detrimental to ciliary activity, has a slightly acid pH, is isotonic, is non-injurious to mucous membranes, and is usually devoid of side effects. Privine lends itself to all conventional methods of application: tampon, spray, displacement procedures, or drop application for interim home treatment.

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PRIVINE
(Nophozoline Hydrochloride)

TRICHOMONIASIS

ELIMINATED BY EFFECTIVE VIOFORM TREATMENT

Three available preparations of Vioform make this drug especially adaptable to a combined treatment which is easily managed, economical in cost, and highly effective in eradicating the pathogen. Vioform used locally for office vaginal treatment as Insufflate and by the patient as Inserts is non-irritant and acts to restore normal vaginal acidity. Orally, Vioform tablets are additionally advisable to reduce reinfection from the rectum. Write for folder describing the Vioform treatment of trichomoniasis.

VIOFORM INSUFFLATE CONTAINS BORIC AND LACTIC ACIDS, ZINC STEARATE AND LACTOSE. VIOFORM INSERTS CONTAIN LACTIC AND BORIC ACIDS.

VIOFORM
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AVAILABLE IN TABLETS OF ½ AND 1½ GR., ORAL SOLUTION, AND IN AMPULS.

DIAL
(Diollylborbituric Acid)

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2/1212

✚ Editorial ✚

THE YEAR AHEAD

The year 1947 bids fair to be an important one in the affairs of the Medical Society of Delaware. In the first place, it is a legislative year. The 80th Congress is now in session, and while the voice of the people last November unmistakably declared they wanted no further truck with the socialization of the American people, *including medicine*, and while the Wagners, Murrays, Dingles, Peppers, et al., are now hopping on the ground because their wings have been clipped, there will be proposed legislation looking to the improvement of medical service to those who can afford it least or not at all. The Taft bill (S. 140) was introduced in the Senate on January 10th, and the Miller bill (H. R. 605) on January 7th in the House, both aiming to establish a National Department of Health. Out of the hearings and the discussions anent the bills may come some constructive national legislation, but it behooves the profession to keep a weather eye on Congress just the same.

In the second place, the Delaware Legislature is also in session, and while our Society is sponsoring only the Premarital Bill, it will be wise to watch the grist from other sources that goes into the mill. Verbum sapiens sufficit.

In the third place, the City Council of Wilmington is still sitting, and the doctors of this city have not forgotten or forgiven that outrageous hike of June 27 in the annual city medical license fee from $10 to $50 per year (other cities take notice, but don't imitate—it may not be as healthy as it looks). At the hearing on September 26th the doctors were told to pay the new fee, and as, when, and if the fee was adjusted (to the $20 the doctors thought was fair), a refund would be made. Now the city clerk is mailing bills for $50 to those physicians who held out, in hope of a decent or at least some, reconsideration. Since it is thus belatedly evident that no consideration is planned at all, Wilmington physicians should pay this $50 license fee under protest, and then support the New Castle County Medical Society in its efforts to ameliorate their situation.

In the fourth place, the rewriting of the Constitution and By-Laws of the Society, authorized in 1941 and delayed only because of the war, must be done this spring. With the help of the Bureau of Legal Medicine of the A. M. A. the proper draft will be made, and a Constitutional Convention, the first since 1923, will be called to complete this important task.

In the fifth place, following the rewriting of the State Society's By-Laws, must come the long-postponed rewriting of the By-Laws of the New Castle County Medical Society, which is important to the State Society because this County Society comprises 77% of the members of the State Society.

In the sixth place, the A. M. A. celebrates its centennial anniversary at Atlantic City, June 9-13th. Delaware, as a near neighbor to the convention city, will be called upon to do more than its average at this outstanding celebration. Just what our Society may be asked to do or afford to do, is not known at this writing, but whatever the national organization asks us to do we shall try to do with credit to our Society, the second oldest state society in the Union. Appropriately, the convention is to be held in New Jersey, which has the oldest state society.

In the seventh place, we hope to have an outstanding session of our own Society in Wilmington in October. The last really great session was held in 1939, the Sesquicentennial Session. This year's session, celebrating the centennial of the national organization, should also be a memorable one in Delaware, and plans will be formulated to make it just that. We hope to renew the "Public Meeting" feature and to present there speakers from the national scene. The 1947 session, we hope, will be one of those you will remember.

In the eighth place, this year, above all recent years, is to be a year of closer cooperative effort. Just because the individual doctor, who has been your editor for the past thirty-one years (and who now has risen to third place, in years of service, as a state medical journal editor in the United States) is also your President for this one and only year, is no reason why any member should expect him and his aides to do it all. The *President* of the Society is not *the Society*—no individual member ever is.

And so, dear members, all of your officers bespeak your earnest assistance in making the year 1947 a memorable one in the annals of our beloved Society. In prospect the year means responsibility; in retrospect, let us make it mean accomplishment.

1789—MEDICAL SOCIETY OF DELAWARE—1947

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Second Vice-President, Henry V'P. Wilson, Dover

Secretary, C. Leith Munson, Wilmington

Treasurer, William W. Lattomus, Wilmington

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Clarence J. Prickett, Smyrna (1948)

Ervin L. Stambaugh, Lewes (1949)

American Medical Association—Delegate: James Beebe, Lewes (1947) Alternate: C. C. Neese, Wilmington (1947)

Representative to Delaware Academy of Medicine, W. O. LaMotte, Wilmington

STANDING COMMITTEES

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H. W. Smith, Harrington
C. M. Moyer, Laurel

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Wm. Marshall, Jr., Milford
Bruce Barnes, Seaford

Publication

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M. A. Tarumianz, Farnhurst
C. L. Munson, Wilmington

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S. W. Rennie, Wilmington
R. S. Long, Frankford

Necrology

O. V. James, Milford
G. W. K. Forrest, Wilmington
U. W. Hocker, Lewes

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G. H. Gehrmann, Wilmington
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J. H. Hynes, Wilmington
W. H. Kraemer, Wilmington
O. J. Pollak, Wilmington
W. C. Pritchard, Smyrna
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A. H. Williams, Laurel
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L. B. Flinn, Wilmington
Charles Levy, Wilmington
L. D. Phillips, Marshallton
Franklin Everett, Dover
R. C. Comegys, Clayton
C. M. Moyer, Laurel
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P. R. Smith, Wilmington
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E. G. Laird, Wilmington
E. R. Mayerberg, Wilmington
O. N. Stern, Wilmington
W. H. Lee, Middletown
W. T. Chipman, Harrington
J. B. Waples, Georgetown
James Beebe, Lewes

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E. R. Miller, Wilmington
C. E. Wagner, Wilmington
J. S. McDaniel, Dover
R. C. Beebe, Lewes

Vocational Rehabilitation

L. J. Jones, Wilmington
D. J. Preston, Wilmington
W. H. Speer, Wilmington
H. V'P. Wilson, Dover
E. L. Stambaugh, Lewes

Postwar Plans

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W. E. Bird, Wilmington
W. O. LaMotte, Wilmington
W. H. Speer, Wilmington
J. S. McDaniel, Dover
William Marshall, Jr., Milford
J. R. Elliott, Laurel
J. B. Waples, Georgetown
R. C. Beebe, Lewes

Budget

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C. E. Wagner, Wilmington
J. D. Niles, Townsend
J. S. McDaniel, Dover
James Beebe, Lewes

Cheff Memorial

W. W. Lattomus, Wilmington
E. R. Miller, Wilmington
A. J. Heather, Wilmington

Advisory, Delaware State Health and Welfare Center

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L. B. Flinn, Wilmington
A. R. Cruchley, Middletown
I. J. MacCollum, Wyoming
E. L. Stambaugh, Lewes

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Mrs. J. H. Mullin, *First Vice-President*, Wilmington

Mrs. W. C. Deakyne, *Second Vice-President*, Smyrna

Mrs. G. W. M. VanValkenburgh, *Third Vice-President*, Georgetown

Mrs. S. W. Rennie, *Recording Secretary*, Wilmington

Mrs. A. M. Gehret, *Corresponding Secretary*, Wilmington

Mrs. C. M. Bancroft, *Treasurer*, Wilmington

NEW CASTLE COUNTY MEDICAL SOCIETY

Meets Third Tuesday

Roger Murray, *President*
A. Leon Heck, *President-elect*
C. T. Lawrence, Jr., *Vice-President*
D. D. Burch, *Secretary*
Charles Levy, *Treasurer*

Board of Directors and Nominating Committee: C. C. Neese, 1947; L. B. Flinn, 1948; Ira Burns, 1949.

Board of Censors: B. M. Allen, 1947; N. W. Voss, 1948; C. L. Hudiburg, 1949; C. L. Munson, 1950; J. M. Messick, 1951.

Program Committee: A. L. Heck, Roger Murray, C. T. Lawrence, Jr.

Legislative Committee: M. A. Tarumianz, J. M. Barsky, E. M. Bohan, F. A. Bowdle, L. C. McGee.

Public Relations Committee: C. E. Wagner, G. M. Boines, I. M. Flinn, Jr., M. B. Pennington, O. N. Stern.

Medical Economics Committee: C. C. Neese, W. E. Bird, J. R. Durham, Jr., E. T. O'Donnell, W. M. Pierson.

Necrology Committee: G. W. K. Forrest, M. I. Samuel, G. W. Vaughan.

Auditing Committee: F. S. Skura, David Platt, D. J. Preston.

Delegates (1947): B. M. Allen, L. W. Anderson, G. A. Beatty, L. B. Flinn, G. W. K. Forrest, L. J. Jones, J. D. Niles, S. W. Rennie, F. S. Skura, M. W. Squires, C. E. Wagner.

Alternates (1947): E. M. Bohan, I. M. Flinn, Jr., E. G. Laird, W. H. Lee, L. C. McGee, C. E. Maroney, W. M. Pierson, D. J. Preston, W. T. Reardon, J. A. Shapiro, W. J. Urie.

Delegates (1948): D. D. Burch, Ira Burns, N. L. Cutler, J. R. Durham, Jr., J. A. Giles, A. L. Heck, J. C. Pierson, W. F. Preston, M. A. Tarumianz, R. O. Y. Warren.

Alternates (1948): G. M. Boines, Italo Charamello, D. M. Gay, L. S. Hayes, A. J. Heather, A. D. King, E. T. O'Donnell, M. B. Pennington, F. P. Rovitti, O. N. Stern.

KENT COUNTY MEDICAL SOCIETY

Meets Second Wednesday

Franklin R. Everett, *President*, Dover.
John P. Martin, *Vice President*, Camden.
Eugene H. Mercer, *Secretary-Treasurer*, Dover.

Delegates: J. S. McDaniel, H. W. Smith.

Alternates: I. J. MacCollum, John Martin.

Censor: W. C. Deakyne.

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Open 10 A. M. to 1 P. M.

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Douglas T. Davidson, Sr., *Second Vice-President*.
Robert R. Wier, *Secretary*.
Irvin M. Flinn, *Treasurer*.

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SUSSEX COUNTY MEDICAL SOCIETY

Meets Second Tuesday—Even Months

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V. A. Hudson, *Vice-Pres.*, Millsboro.
R. S. Long, *Secretary-Treasurer*, Frankford.

Delegates: Bruce Barnes, R. S. Long, James Beebe, H. S. Riggin.

Alternates: L. M. Dobson, C. M. Moyer, E. L. Stambaugh, G. W. M. Van Valkenburgh.

Censors: O. A. James, R. C. Beebe, A. C. Smoot.

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James Krygier, *First V-P.*, Dover.
R. R. Wier, *2d V. P.*, Wilmington.
H. H. McAllister, *Secretary*, Wilmington.
L. D. Gluckman, *Treasurer*, Wilmington.
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Metamucil softens the fecal residue, affords bland bulk and exerts a gentle, stimulating, physiologic peristalsis.

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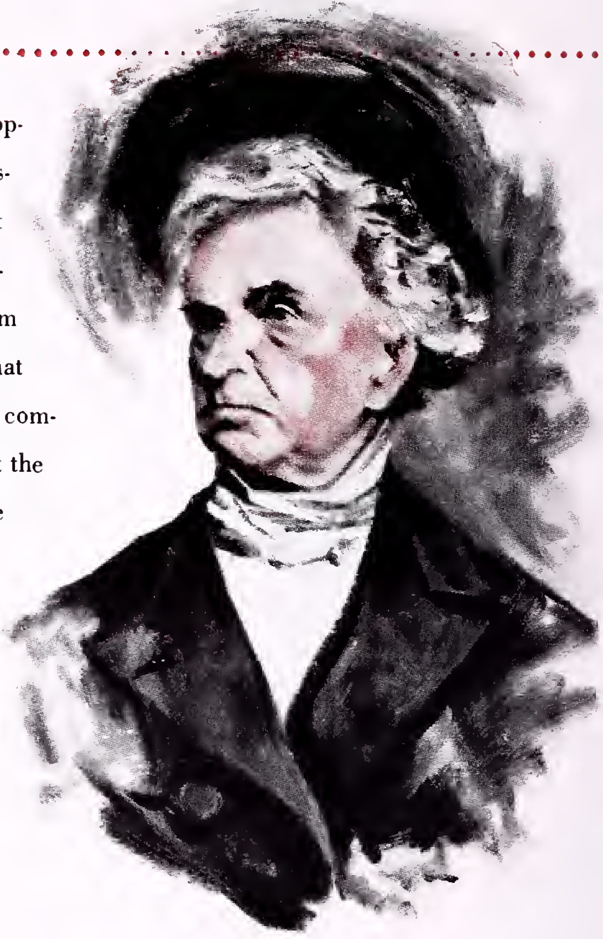
A contemporary paid tribute to Justus von Liebig as "the greatest experimental thinker who has yet appeared among mankind."



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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

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Sinal drainage"... can be achieved by the introduction of nontoxic, volatile vasoconstrictors, such as ...amphetamine [Benzedrine]."

Russell, H.G.B., abstracted, Proc. Roy. Soc. Med. 36:401.

To relieve the discomfort of sinusitis

The vasoconstrictive vapor of Benzedrine Inhaler, N.N.R., diffuses evenly throughout the upper respiratory tract, opening sinal ostia and ducts which are frequently inaccessible to liquid vasoconstrictors. The sinuses drain. Headache, pressure pain, "stuffiness" and other unpleasant sinusitis symptoms are relieved.

Each Benzedrine Inhaler is packed with racemic amphetamine, S.K.F., 250 mg.; menthol, 12.5 mg.; and aromatics.

Smith, Kline & French Laboratories, Philadelphia, Pa.

Benzedrine Inhaler

a better means of nasal medication

In the Early Recognition of Protein Deficiency

Unsupervised dietary curtailment and self-imposed food restrictions, not infrequently observed in elderly patients and in those desirous of preventing weight gain or losing weight, are apt to lead to multiple nutritional derangements. Not the least important among these, and often overlooked, is protein deficiency.

The early symptoms of chronic protein deficiency are vague and lack specificity. Thus they escape detection unless pointedly looked for. Easy fatigability, loss of weight, anorexia, malaise, and a slight pallor due to underlying secondary anemia constitute the most common complaints. A careful history of eating habits usually discloses the true significance of these symptoms.

Detection of the earliest objective sign of protein deficiency—negative nitrogen balance—requires hospitalization for several days, in order that nitrogen intake and excretion can be accurately determined.

Prolonged protein deficiency leads to hypoproteinemia, and is readily recognized by generalized edema and by a serum protein level below the normal 7 to 8 Gm. per 100 cc.

The most dependable and effective means of preventing and correcting protein deficiency is through proper organization of the diet. The recommended intake of 1 Gm. of protein per Kg. of body weight insures nitrogen balance in normal persons. For correction of frank protein deficiency, at least 2 Gm. per Kg. of body weight—and frequently considerably more—is required.

Among the protein foods of man, meat ranks high, not only because of the generous supply of protein it provides, but also because its protein is biologically complete, applicable for the satisfaction of every protein need.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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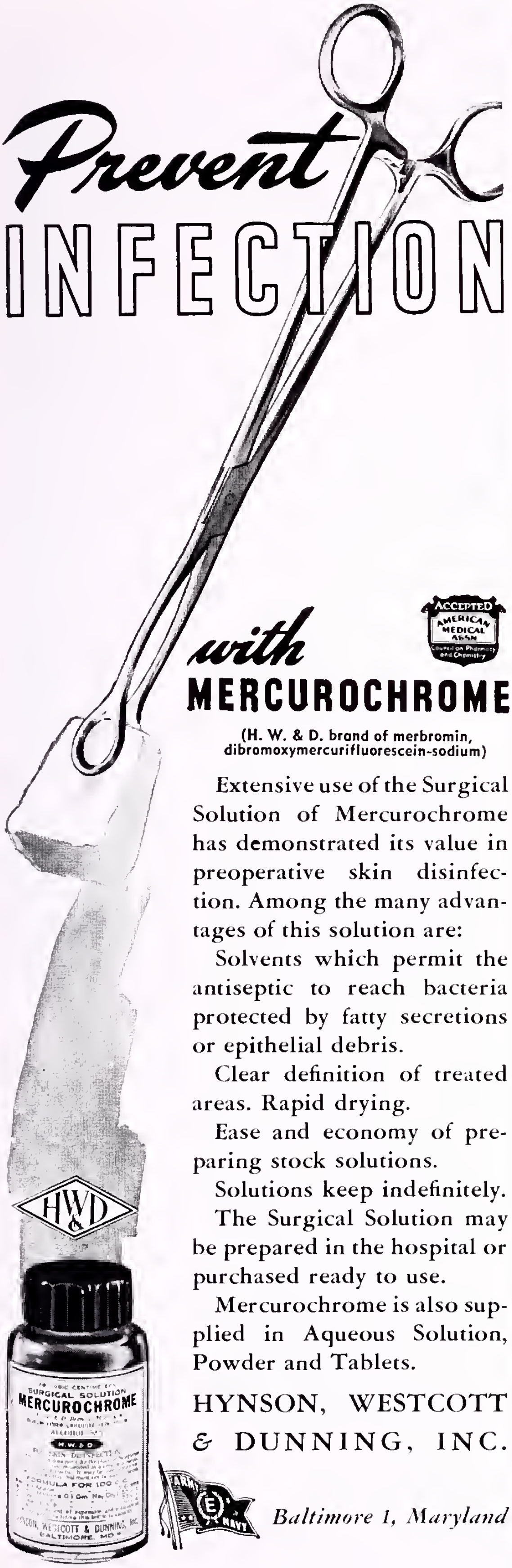
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Solutions keep indefinitely.

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SIMPLE • SPEEDY • CONVENIENT
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The Tablet, No Heating Method

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NOTE—NEW ATTACHMENT FOR ADDED CONVENIENCE

The test tube clip now supplied with each pocket-size case enables the test tube to be hooked on to the outside of case, as shown in illustration.

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FOR INFANT FEEDING
As Directed by Physician
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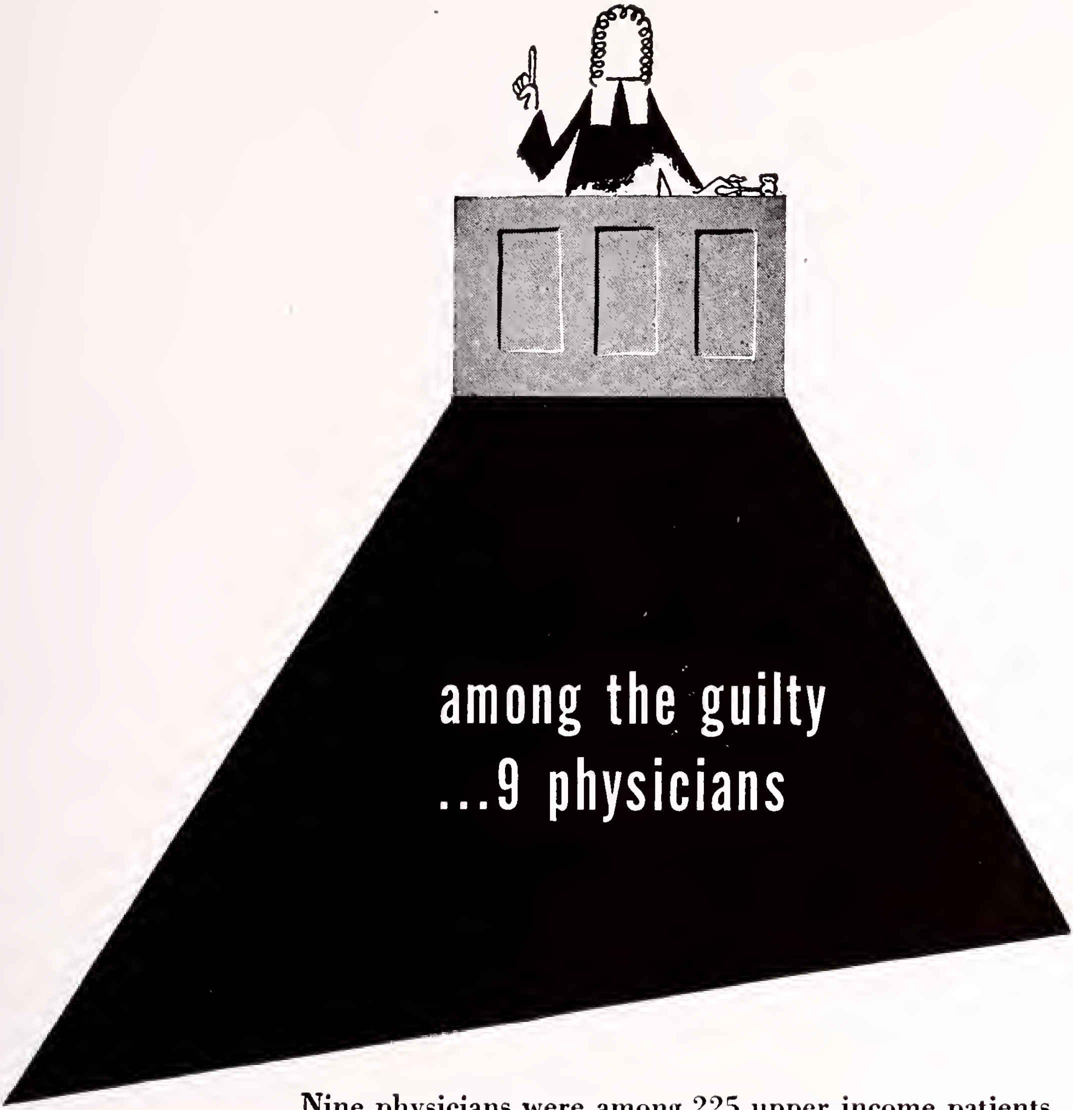

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1. New England J. Med. **228:**118 (Jan. 28) 1943.
2. J. A. M. A. **129:**613 (Oct. 27) 1945.

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---

*Frazer, J. G.: The Golden Bough, vol. 1, New York, Macmillan & Co., 1923

It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

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Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 19
NUMBER 2

FEBRUARY, 1947

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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1. Dickinson, R. L.: Techniques of Conception Control. Baltimore, Williams and Wilkins Co., 1942.
2. Eastman, N. J., and Scott, A. B.: Human Fertility 9:33 (June) 1944.
3. Warner, M. P.: J. A. M. A. 115:279 (July 27) 1940.

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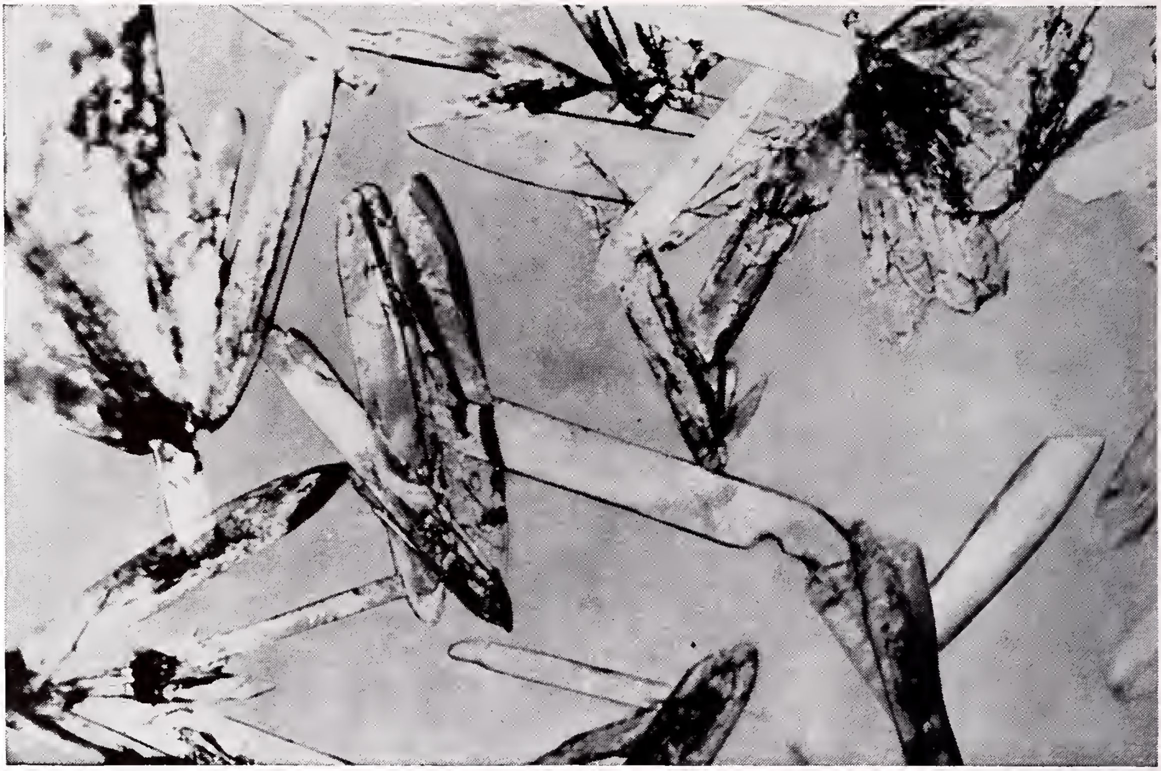

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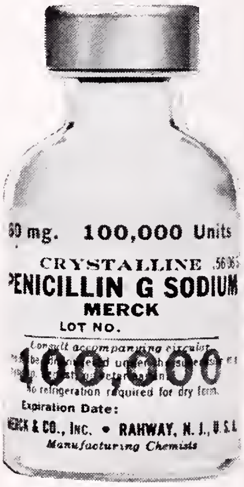

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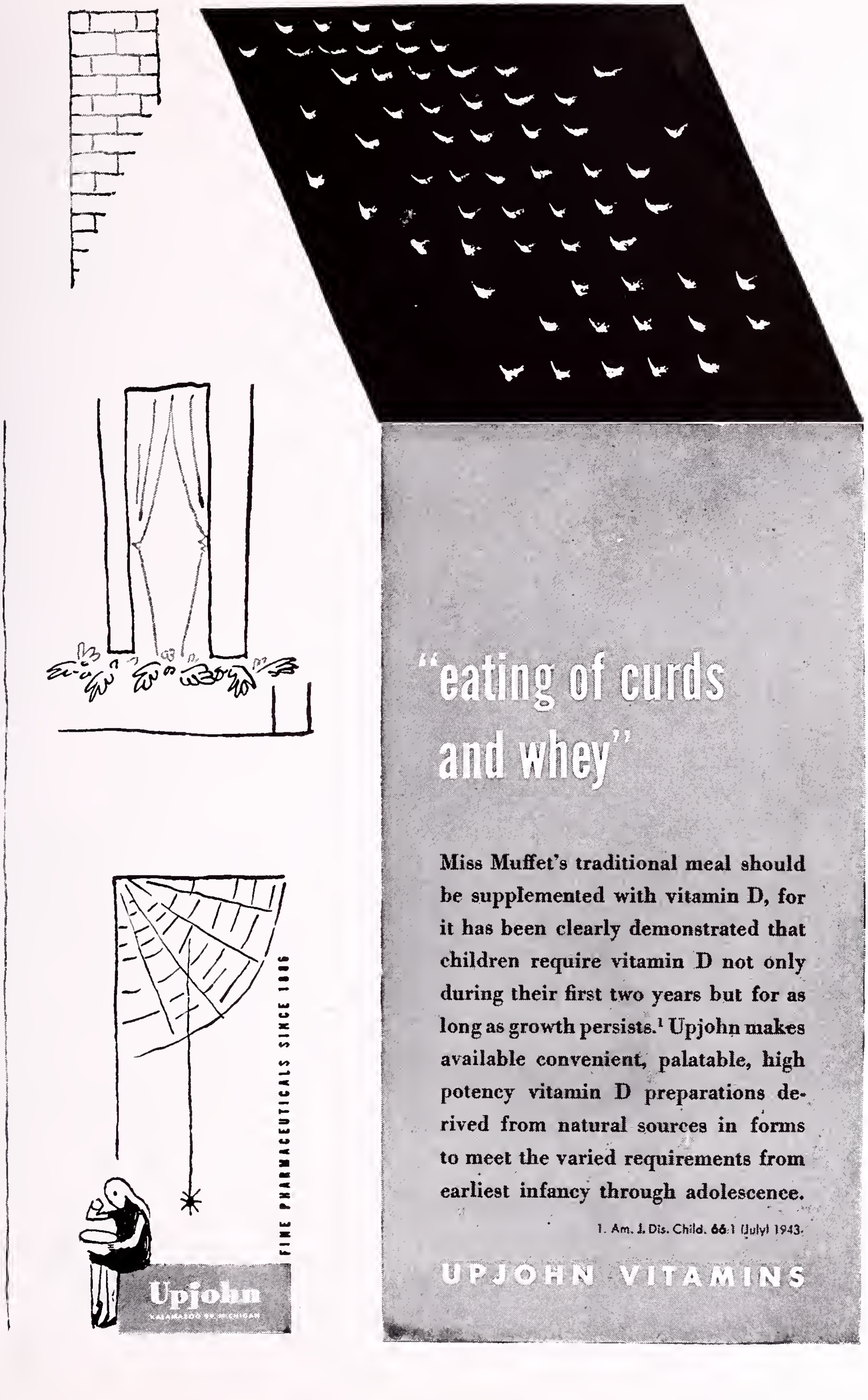

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1. Am. J. Dis. Child. 66:1 (July) 1943.

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Cawthorne, T.: The Treatment of the Common Cold, Clin. Sup. to King's College Hosp. Gaz. 18:iii.

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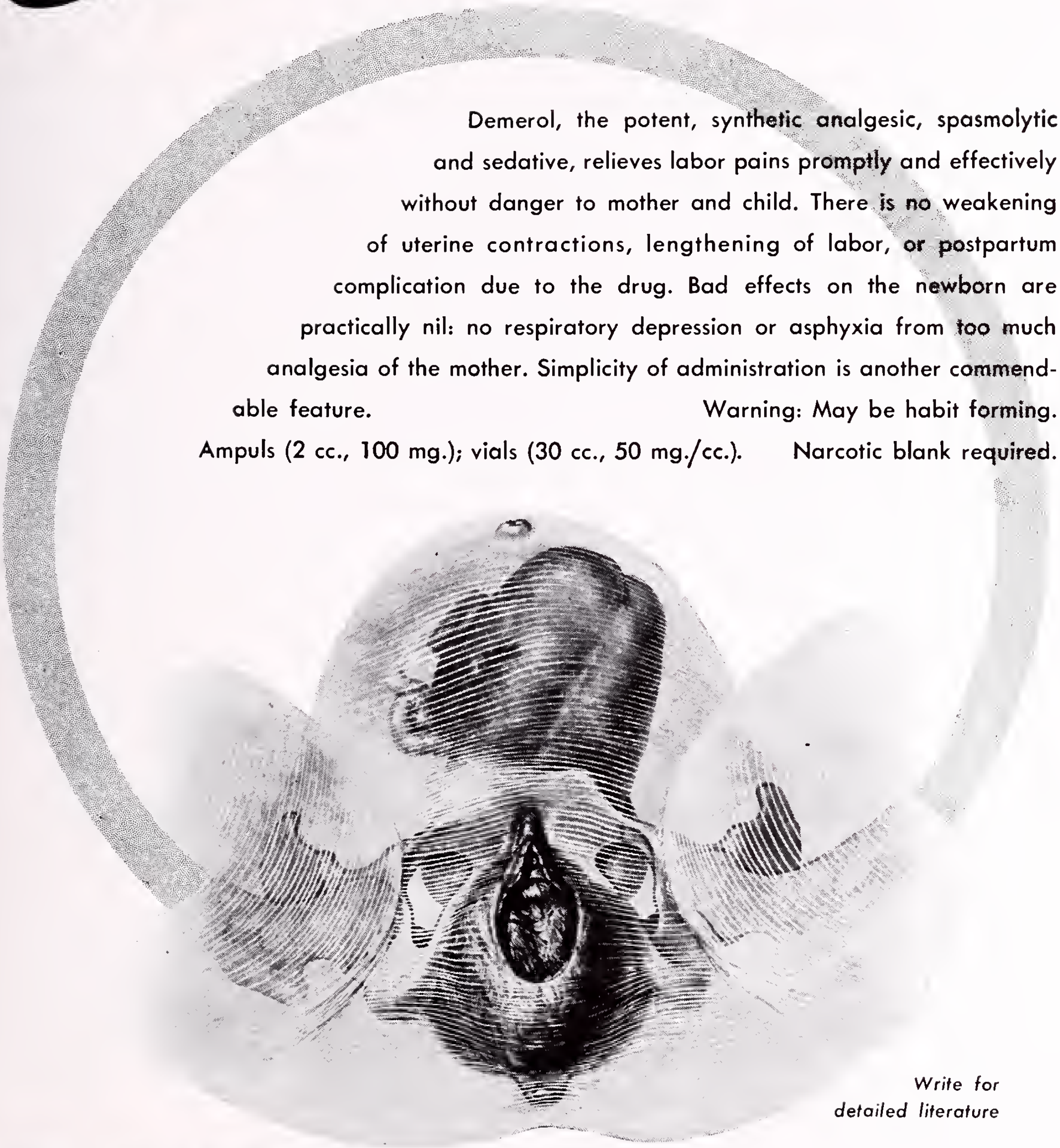

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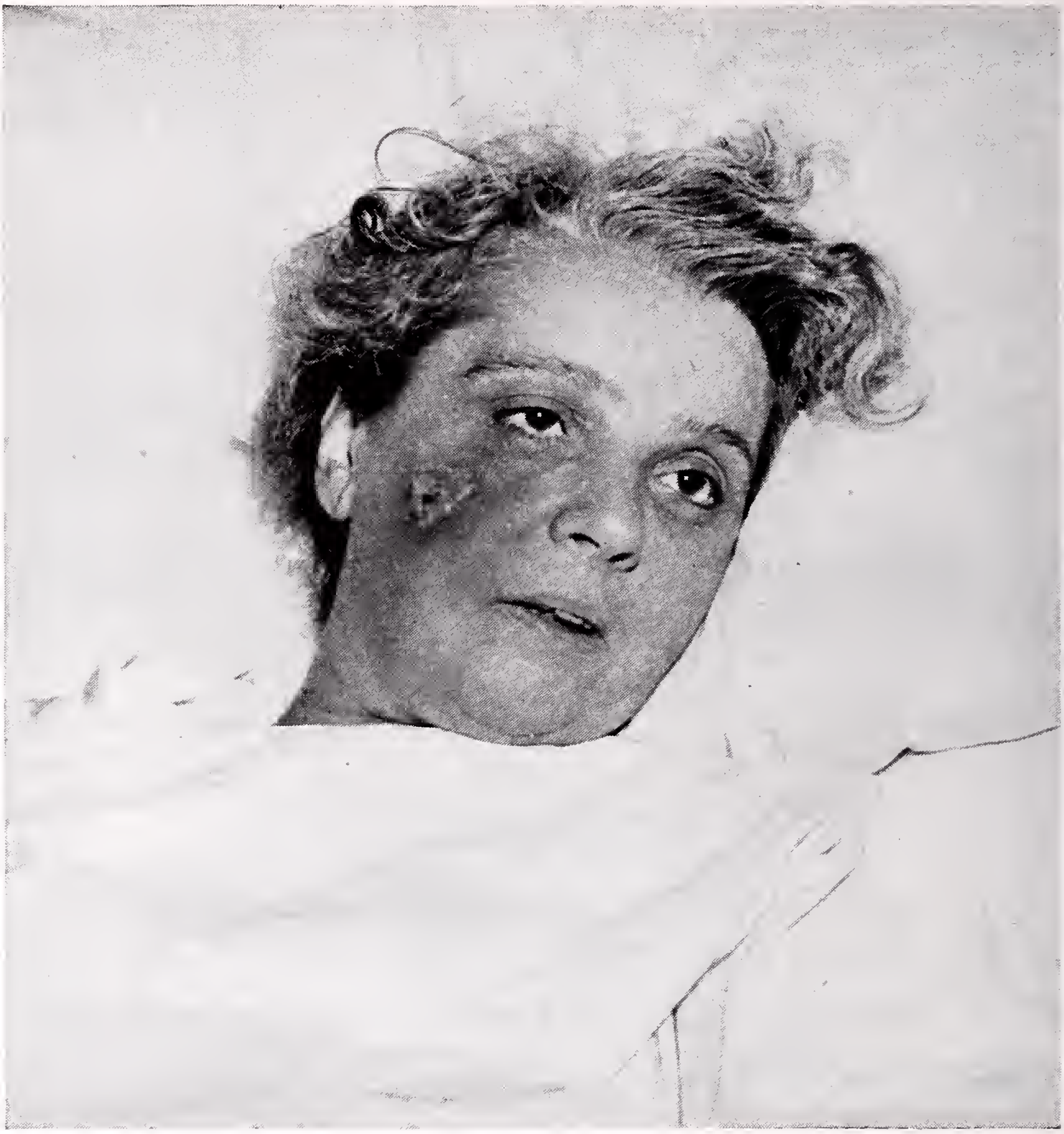

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 2

FEBRUARY, 1947

Per Copy, 20c
Per Year, $2.00

THE DIAGNOSIS OF INTRAOCULAR TUMORS; A DEMONSTRATION OF KODACHROME SLIDES

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The exposition considered retinoblastoma, metastatic carcinoma of the choroid, malignant melanoma, and a meningioma. A short history of each case was presented and the disease described in detail. Congenital retinal pigmentation, benign melanoma, angiomatasis retinae, angioma, and choroidal hemorrhage were shown and the differential diagnosis explained.

Retinoblastoma, the glioma of the textbooks, is a rapidly growing intraocular tumor seen in infancy and early childhood. The diagnosis is made when there is a yellow pupillary reflex, the history of progressive loss of vision and frequently a marked irritability of the nervous system. If the growth is extensive, gross vessels are visible on it. At other times pale yellow spots appear in the iris and a soft, yellow cellular mass in both the vitreous and the aqueous. This moves on motion of the globe and settles below like an ordinary hypopyon. This is one of the most urgent of all eye diseases for if the diagnosis is delayed, the growth increases and may break through the globe, or extend along the optic nerve to the brain. The prognosis is very grave and enucleation must be performed promptly. Several reported cases suggest a familial predilection and under such conditions further pregnancy should be avoided.

In premature babies there is often an arrested dissolution of the vascular framework of the vitreous. This may at times give a yellow reflex to the pupil and looks like a retinoblastoma. However, a careful inspection will disclose a grayish tinge to the mass. The fetal remains may be complete producing a graying pupillary reflex, partial with smooth vascular remnants, or large waving folds. This condition must be excluded in all babies before considering anything else.

Purulent infiltration of the vitreous may obviously give a yellow reflex or completely fill the vitreous. The history of injury or infection assists in the diagnosis.

These conditions were illustrated by ten original kodachromes; an eye with metastasis in the iris, rapidly growing, soft cellular mass in the vitreous, a growth completely filling the globe and forming a ring of tumor about the cornea; persistent hyaloid membrane in an eye which was enucleated because of glaucoma; and a purulent vitreous.

The next group were metastatic carcinomas of the choroid. Two cases were presented, in each the patient had had a breast removed for carcinoma.

The first eye symptom was blurred vision caused by a flat detachment of the retina. The pupil was larger in the more affected eye, later in the course of the disease there was a dull gray pupillary reflex and the slightly elevated detached retina was seen.

In both patients glaucoma developed and the affected eyes were removed. The condition may follow carcinomas in other sites but it is very unusual. The disease is rare, only 250 cases are recorded. It is another disease the diagnostician must remember, for when the patient who has had a carcinoma of the breast complains of failing vision, metastasis must be excluded. When the eye is painless, enucleation is not advised for the general body metastasis is fatal. The patient usually lives only a short time after the eye becomes involved.

Malignant melanomas, commonly called sarcoma of the choroid, made up the last and largest group. The alleged onset of this disease is as variable as the disposition of the individual. A patient said her vision was perfect until two days before her eye was removed for a large, mushroom-shaped, densely pigmented choroidal tumor, which had obviously been present for months. The tumor may become so large that it breaks through the sclera and the patient seeks relief from the annoying bleeding. The time relief is sought depends upon the primary site of the tumor. When it is central, patients come early because of a blind spot. The growth may be very small and call for great skill in correctly diagnosing it. Or the first symptom the patient notices may be a sudden, complete blindness, which examination discloses to be a detachment of the retina. It is often difficult to diagnose a tumor as the cause of the detachment. The detachment may look like an ordinary fluid separation of the retina, or it may be attached to the growth. I have found that a careful history of the onset of the blindness is often of great value and that an accurate field for light projection is a very important factor in determining the cause of the separation. If the growth is in the anterior portion of the globe, transillumination is of great help, but when it is at the posterior pole, this method is less applicable or even impossible.

Twenty kodachromes were exhibited to show the tumors ranging from a small, flat central tumor to one half filling the globe and detachments from one localized to the tumor, to a complete separation of the retina. A case of local orbital recurrence was explained and another of metastasis with generalized carcinomatosis. It is well to remember that when a patient presents with abdominal symptoms after an enucleation liver metastasis must be excluded, thus preventing a number of unnecessary operations.

Whenever a patient complains of poor vision, an expert ophthalmoscopic examination is imperative for the background of the eye is the stage on which not only malignancies but practically all of the constitutional diseases known to man may make their original appearance.

One case of meningioma causing a choked disc and proptosis was also shown.

The differential diagnosis of various closely allied symptom complexes is the most interesting of medical problems and calls for an ever widening field of observation. Before an eye is removed all measures should be employed to exclude benign tumors and other diseases. As an example, a patient came in with a diagnosis of intraocular tumor and said she had been advised to have the eye enucleated. The sclerosis of the retinal arteries and veins and areas of exudate were sufficient to make the diagnosis of sarcoma questionable and choroidal hemorrhage probable. Several fundus pictures were shown to prove the diagnosis and illustrate how the blood was absorbed.

In the degeneration of the macular choroid and retina of the elderly, a central mass may suggest a tumor but observation over a long time and attention to the general circulatory symptoms will be sufficient to save many eyeballs from the hands of an operator.

Among the other confusing conditions is a round, macular retinochoroiditis which may suggest a tumor. It is circumscribed, elevated 1 to 2 diopters and frequently has a finely pigmented surface. It is benign and no operation is indicated.

In tuberculous choroiditis massive exudates sometimes suggest malignant growths, but a careful history and examination will prevent errors.

The photographs of an angiomatosis retinae showed the very large veins and arteries extending to an oval somewhat nodular mass. This interesting condition does not warrant enucleation for it is often part of a general vascular disease with angiomas in many parts of the body, such as the cerebellum.

Pigmentations may be isolated brown, subretinal or deep retinal spots over which the retinal vessels pass. They rarely enlarge and may be excluded from the malignant spots by careful re-examinations. The malignant melanomas usually show appreciable and measurable growth in three or four weeks and there is often a secondary tumor in the same eye. This was shown by photographs where the benign growth remained unchanged for years and in the malignant where an increase in the size of the tumor was marked in one month.

The other confusing pigmentation is the congenital, where there are usually several stationary brown spots in a sector of the fundus. The larger areas are always the more peripheral.

SUMMARY

The usual intraocular malignancies were exhibited by 90 kodachrome slides.

Some points of differentiation were illustrated.

The object of the demonstration was to make all more conscious of intraocular malignancies.

DISCUSSION

Dr. W. O. LaMotte (Wilmington): Mr. President, members of the Society and guests. It is an honor to open the discussion on a paper by Dr. Bedell, who has spoken pretty much all over the country. I feel something like Dr. Beech said he felt when he was lecturing on optics, with Dr. Lancaster sitting in the audience.

February 29, 1928, Mrs. T., age 27 years, was seen because of a blind left eye which occurred in 1927 during pregnancy. Vision was light perception. She was using drops in this eye, prescribed by two different oculists at different times. There was a pigmented mass in contact with the posterior surface of the lower part of the lens. Transillumination over the lower part of the sclera gave no reflex; it did over the upper part. Tension was 40 (Schiotz). Diagnosis was pigmented sarcoma of the choroid. The eye was enucleated the day after the first visit. It was sectioned by a competent ocular pathologist. Half of the eye was returned with the sections to me but no malignancy had been found. The half in my possession was sent back to the pathologist to make sections of this part. These showed a spindle-celled partly pigmented sarcoma. The patient is living and well today.

A blind and phthisical eye frequently contains a tumor. Absolute glaucoma in which the fundus cannot be seen may contain a malignant tumor. In a study of 402 such cases by one author 10 per cent were found malignant.

I would like to ask Dr. Bedell, if he doesn't mind, what are the statistics on incidence of ultimate death by metastasis to other parts, and what is known about how early these metastases occur, for example, in a small melanoma as seen in a normal seeing eye? What would be your course of action? Is there any evidence that there is less metastasis from early removal than removal in later years?

Dr. N. L. Cutler (Wilmington): Dr. Bedell, Mr. Chairman, I won't take up any of your time. I possibly can't help but say that perhaps you appreciate that an ophthalmologist occasionally has something more confronting him than just a refraction. We have had the opportunity this afternoon to see some photographs both of the fundus and of the eye which are classics. I think I am stating a fact when I say that. There are certainly no better fundus photographs in the world than Dr. Bedell has, and there is no better technician and also student of fundus photographs than Dr. Bedell. I emphasize this because I know the men who are for the most part directly interested in ophthalmology, and his reputation is not nationwide, it is worldwide, and it has been a great privilege to hear Dr. Bedell.

He has stated that some patients went down the river. I think you will all agree with me that they would have been more fortunate in this case if they had gone up the river, reversing the usual opinions.

There are only one or two things that I would like to bring out; one of them is a question I would like to ask Dr. Bedell. I would like to ask Dr. Bedell how much importance he places on elevation in a benign, apparently benign melanoma of the choroid? This is a problem which probably confronts ophthalmologists more frequently than some of the other conditions which he has discussed. At the present time I just happen to have two cases which have elevation of the benign melanoma, apparently benign, one in a one-eyed patient. photographs, which were taken for me at the

I have a few slides here, kodachrome fundus University of California, which I hesitate to show after the pictures that have been shown here. However, they were taken at the University of California. One is supposed to be focused on the tumor and one on the retina. Standing at this distance I am not sure which is which. This was an optic nerve tumor occurring in a medical officer in his 30's who noticed about June of 1944, looking through field glasses, that the vision in one eye was not as good as the other. He finally found his way to our hospital in March of 1945, and we saw this pinkish yellow elevation on the optic nerve. He was seen by Dr. Cortez, Professor of Ophthalmology at the University of California.

The question came up as to whether this was a rather rare tumor known as a perifeloma. He took a leave and came East intending to see some other men in consultation. He saw Dr. Dunnington in New York and he also saw Dr. Arnold Knapp. The consensus was that this was a malignancy and that the eye should be removed, which was done in due course. The slide was sent to the Army Medical Museum. Colonel Ash sent a report back to me that it was a glioma. The slide was also sent to Dr. Alvarez of New York at Columbia Presbyterian and his opinion was it was angioma epithelioma. The slide was also sent to Dr. Verhoff of Boston, another authority, and he agreed with Dr. Alvarez.

The result of the pathological examination indicated that we had removed an eye with a benign tumor. That is one of the problems, of course, one does face. Apparently there is just a little bit of room left by these men for a change in their minds.

I am wondering, if from these rather poor photographs, Dr. Bedell could give some further enlightenment upon these cases. This is going to be published by Dr. Silvers of Reading Hospital who happens to be here today and we have been interested in it.

Thank you very much for a very enjoyable presentation, Dr. Bedell.

DR. J. M. MESSICK (Wilmington): Dr. Bedell and gentlemen: Obviously this discussion belongs to the ophthalmologists, but I have been attending many medical meetings here and there, and I have passively heard a lot of talk on ocular conditions of one kind or another, but it has never been my privilege to hear and to see such a presentation. I am sure that those who see such exquisite photographs, certainly to those of us who are not ophthalmologists, this presentation brings home at least two points, one is that when we see unusual eye conditions this should persuade us to get to an ophthalmologist in a hurry; and secondly, emphasizes again the tremendous help we can get from the ophthalmologist if we only ask for it.

PRESIDENT W. C. DEAKYNE (Smyrna): Is there any further discussion? If not, I will ask Dr. Bedell to close the discussion.

DR. BEDELL: I will consider Dr. Cutler's question first. Dr. Cutler, there is a very distinct similarity in the contour of the mass you report and the angiomatosis which I presented. Your case is unique because the tumor is located on the disc and this prevented the formation of dilated vessels which are characteristic of the disease. If I had seen it, I would have advised delay, because by photographs the size of the lesion and its elevation could have been observed and prognosis be caused on the photographic evidence. It is a very interesting case and I am very glad to have seen the photograph.

Dr. Cutler asks what significance I place on elevation. A benign melanoma lies beneath the retinal vessels, which pass over it usually uninterrupted in course or size. I have seen benign melanomas elevated about two-thirds of a millimeter, and they have remained for years without change. I do not believe it possible to always be sure of the diagnosis on one examination. It is my habit to examine and photograph repeatedly and if the area enlarges to consider the case as probably malignant especially if the growth becomes thicker as well as more extensive. I do not consider mere elevation of a dark patch an indication for the removal of the eye.

Dr. LaMotte asks about statistics on metastatic growth. I cannot answer his question. I have over 100 specimens of sarcoma of the choroid, and I am sure that both Dr. LaMotte and Dr. Cutler will agree that it is a large collection. Metastasis has not seemed to be dependent upon the size of the tumor, the time the eye was removed nor on the degree of pigmentation of the tumor. In other words, I can't tell why one metastasizes promptly and why the other goes on quietly for years. And for the same reason, I cannot answer some of the other questions regarding the source of light. It does not then, in my experience, depend upon the size of tumor, its location, or the degree of pigmentation.

Some years ago, I spoke on glaucoma and a man whom I knew to have a large and active medical practice said, "I never saw an acute glaucoma in my practice." I thought that was surprising. Within six weeks I operated on five of his glaucoma patients. This is stated to remind you that you must become conscious of entities such as intraocular malignancies.

I thank Dr. Messick for his gracious remarks.

It has been very pleasant to be with you. I have profited by the papers of the morning and have been delighted this afternoon.

HYALURONIDASE

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While only one spermatozoon actually unites with the ovum, millions of spermatozoa are necessary for impregnation. A sperm count of 60 millions per c. c. and of 300 millions per semen sample is generally accepted as a minimum for a man to be considered fertile. We know that men with a much lower sperm count may father a child; however, the ability to impregnate decreases rapidly with the drop in the number of spermatozoa. The phenomenon of polyspermia as a prerequisite for the union of the nuclei of the two gamets has attracted the attention of investigators for centuries.

In 1930 Yamane[1] sterilized male rabbits by vasectomy and compared ova washed out from the fallopian tube after copulation with these animals with ova from fertile copulation. He showed that ova from fertile cohabitation are much sooner devoid of corona cells than ova from non-fertile conjugation: At a time the corona of the non-fertilized ova just starts to break up, the fertilized ovum has reached the two-cell stage. The same was observed in vitro. In 1935 Pincus and Enzmann[2] realized that disintegration of the corona depends upon the number of spermatozoa and stated as minimum requirement for the process a count of 20 million spermatozoa per c. c.

In 1942 McClean and Rowlands[3] construed a new fermentative-chemical theory of fertilization. They assumed that the seminal hyaluronidase attacks the intercellular substance of the corona radiata which surrounds the ovum in the fallopian tube. The spermatozoon cannot penetrate the ovum unless the corona radiata has been destroyed. By placing fresh ova of rats into extracts with hyaluronidase parallelism between the speed of disintegration of the corona and the concentration of the enzyme has been demonstrated. The enzyme is carried to the place of its action by spermatozoa and thus its amount in the fallopian tube depends upon the number of spermatozoa. A subnormal sperm count results in lack of hyaluronidase and subsequently in lowered fertility. Addition of the enzyme to suspensions of rabbits' spermatozoa seemed to improve the results of artificial insemination.

Hyaluronidase activity has been observed in extracts of testicles with histologically proven spermatogenesis but not in extracts of gonads without a normal maturation of the germ cells. The observation that a latecomer among the spermatozoa penetrates the ovum rather than one of the spermatozoa which arrived first in the fallopian tube tends to support the fermentative-chemical theory.

Hyaluronidase is an enzyme which acts specifically upon hyaluronic acid. The enzyme and the acid are present in mesothelial mucus. Trypsin, pepsin and diastase either do not act upon mesothelial mucus at all, or to only a very slight degree. On the other hand, hyaluronidase is ineffective against mucus from salivary glands or from bronchi. Hyaluronidase is present in the extract of testicles, placenta, in the vitreous humor, umbilical cord, synovial and pleural fluid, in malignant tumors including sarcoma of fowl, snake and spider poisons, leeches, and in bacteria such as those of the malignant edema group. The enzyme seems to be present wherever there is destruction of normal tissues.

Hyaluronic acid conjugated with sulfuric acid is present in the interstitial substance of connective tissue. The protein-free fraction of mucus, obtained by salting-out or by tryptic digestion of the material, may be broken down into equimolar amounts of acetylglucosamine and glucuronic acid.

At present, hyaluronidase can be detected by several methods. Duran-Reynals[4] inject an extract of the material to be tested together with a colored indicator into the skin of an experimental animal and compare its spread with the moderate spread of the indicator alone. The test is known as Reynals' test, or the spreading or diffusion factor. Chain and Duthie[5] observed that the viscosity of a mucoprotein solution decreases with an increased amount of mucinase. At the same time, reducing substances are being liberated. This method requires the preparation of a substrate. Umbilical cord may be used as basic material. After removal of all blood, the cord is hashed, extracted with water, the mucin precipitated with alcohol acidified with acetic acid, desiccated in a vacuum over calcium chloride, and finally powderized. The light powder is soluble in water and in physiologic saline solution. Meyer and Palmer[6] identified such substrate as a glucoprotein similar to mucoitinsulphuric acid or chondroitinsulphuric acid.

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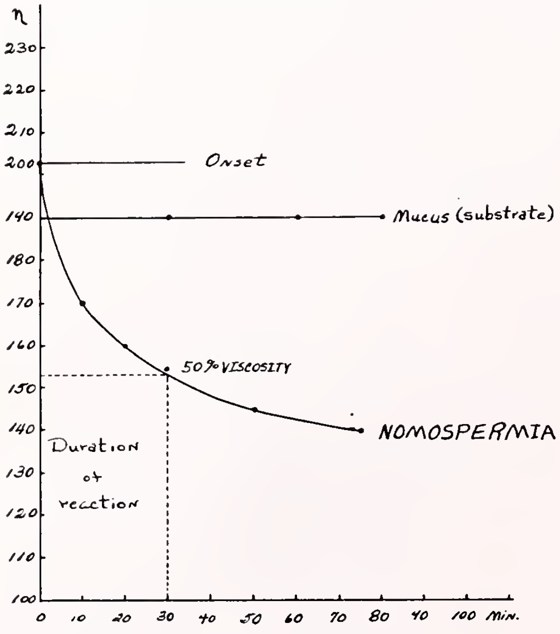
A complete semen analyses shall in the future include an assay of hyaluronidase. Preparation of a suitable substrate is fairly simple but the enzyme which is needed for control purpose is not yet readily available. In practice, hyaluronidase in semen is best measured with the aid of a viscosimeter. The viscosity of a solution of the substrate is adjusted so that it is three times that of distilled water. A 0.3 per cent solution usually has this property. Of such solution 5.0 c. c. are drawn into the lower bulb of an Ostwald viscosimeter and then 0.5 c. c. of fresh semen. The content is mixed and, with the aid of a rubber balloon, is drawn into the upper bulb until the meniscus reaches the upper mark of the apparatus. Then the material is allowed to flow from the upper to the lower mark.

The following readings and calculations are made:

a. The time at onset of flow is recorded
b. The time of flow of the semen-mucus mixture from one mark to the other is timed with a stop-watch



Gragh I: VISCOSITY OF NORMAL SEMEN

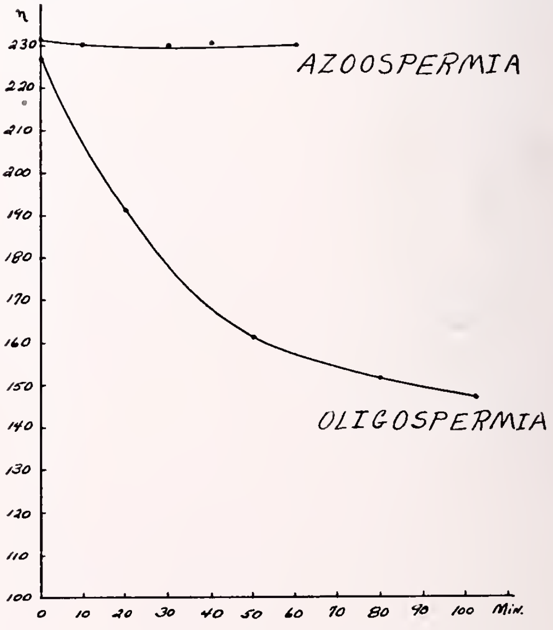
c. The corrected time is "a plus half of b"—for reduction of the viscosity from the moment of contact of the semen and substrate
d. The time of flow for distilled water is estimated in a control experiment
e. The time of flow of solution of the substrate is another control
f. The real viscosity equals b/d

The control values (d and e) are known from the preceding standardization of the substrate. It is safer to set up these control tests simultaneously with the semen analysis.

Viscosity of any material is subject to variations with the temperature, the pH and the concentration of electrolytes. It is best to perform the test at 20°C, at a pH of 4.8 and to use an exact 0.85 per cent solution of saline as diluting medium for the substrate.

The result of studies is evident from graphs. The amount of hyaluronidase decreases with the number of spermatozoa. In azoospermia, that is in semen without spermatozoa, and in aspermia resulting from obstruction of the seminal passages there is no hyaluronidase in the ejaculate.

Many a question has not yet been answered Normally, hyaluronidase is present both in the seminal fluid and in the spermatozoa; if the sample lacks spermatozoa the enzyme is absent from both constituents. Exceptions to these



Gragh II: VISCOSITY OF SUBNORMAL SEMEN

rules are encountered. Occasionally, the amount of enzyme and the number of cells do not conform. Studies of hyaluronidase content of semen after various types of treatment have not yet been summarized.

Therapeutic experiences with hyaluronidase are still limited. Identity of the enzyme in human and animal semen has not been definitely established. This question is important in view of the need for isolation of hyaluronidase needed as control in practical assays, in research, and for therapeutic purposes as well.

Summary

A brief review of theories and facts about hyaluronidase is given.

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A SKIN TEST TO MEASURE SUSCEPTIBILITY TO WHOOPING COUGH

Preliminary Report

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The objective in the prevention of whooping cough cannot be attained, regardless of the seductive theories of routine immunization injections of various pertussis antigens and combinations thereof, or the recognized medical abilities of the physician, unless the parents of the young patients can be assured that the immunization will develop the desired protection against whooping cough.

It is definitely established that deficiencies in immunity against diphtheria can be determined by the easily performed Schick test, and in the case of scarlet fever by the Dick test. The need for a simple and easily performed skin test to measure the immunity index of pertussis requires no elaboration. The lack of such a test no doubt accounts for the paucity of authentic data about pertussis immunity in general.

A variety of tests for assessing immunologic response following pertussis vaccine injections have been reported, but these require laboratory facilities and specialized technique. Daughtry-Denmark[1] used complement fixation and agglutination reactions; Mishulow et al.[2] expressed a preference for the mouse protection test as an index of immunity.

Flosdorf et al.[3] described a new skin test for whooping cough, using a purified agglutinogen, which, in their hands distinguished susceptible persons from the immune.

Stream et al.[4] described a skin test with purified pertussis toxin, in which an immune response is obtained in only those who have recovered from the disease or those immunized with toxoid. A repetition of Stream's work by Silverthorne and his associates[5] has shown that the toxin does not distinguish between those who have had the disease and those who are presumably susceptible.

Following a comparative study of pertussis agglutinogen skin test and complement fixation test, Sauer and Markley[6] concluded that "the agglutinogen skin test seems to be a simple method by which persons who are immune to pertussis can be readily differentiated from those nonimmune."

Factors Influencing Skin Reaction. The immunologic diagnostic test is manifested by two types of dermal allergy. One depends on the presence of circulating antibodies, resulting in a response in about 15 minutes after the inoculation of the antigen, and usually disappears in three hours. The other type is always of a delayed nature, being a true tissue allergy, in which there is no reaction for a number of hours following the injection of the antigen. The maximum intensity of the reaction is reached after 24 hours, being manifested by induration, pain and redness.

It is thus assumed that if antibody is present in the blood stream and thereby presumably in the tissues, the injected antigen will excite an inflammatory reaction indicating the presence of protective substances. There is analogy with the tuberculin test rather than with the Schick test.

Agglutinogen for Pertussis Skin Test. The reports of Flosdorf and Kimball[7], Felton and Flosdorf[8], and Smolens and Mudd[9] have established agglutinogens from phase I of Hemophilus pertussis as the specific fraction for the pertussis skin test to differentiate between the immune and nonimmune.

Impressed by these reports, it was decided to try a purified agglutinogen* in three groups of children.

Procedure and Interpretation of Skin Test.

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One-tenth cc. of the agglutinogen was injected intradermally and readings of the skin reactions made 30 minutes and 24 hours after injection.

As has been indicated, two types of dermal responses were anticipated; an immediate, or wheal-like reaction, and a delayed or tuberculin-like reaction. Induration is the determinant factor in a positive immune reaction to distinguish it from a negative reaction. Erythema alone is not considered in the interpretation.

The following procedure for grading reactions has been suggested:

1. Positive Immune—An indurated reaction (with or without erythema) 20 mm. or more in diameter at either one-half or 24 hours or both.
2. Weakly Positive Immune—An indurated area (with or without erythema) not exceeding 20 mm. in diameter at either one-half hour or 24 hours, but at least 10 mm. in diameter at either or both.
3. Negative Susceptible—No induration at either one-half hour or 24 hours beyond an area 10 mm. diameter.

All reactions will fade quickly, usually disappearing in 36 hours or sooner.

Results. A tabulation of the results is given with necessary details of explanations:

TABLE I

Group	Number Tested	Ave. Age	H. Pertussis Vaccine Injections	Results of Skin Test		
				P.I.	W.P.I.	N.S.
1-A	16	10.2 Months	None	0	2	14
1-B	6	8.8 Years	None	0	0	6
II	5	6.9 Years	None	5	0	0
III	32	5.5 Years	Yes	22	5	5

P. I.—Positive Immune.
W. P. I.—Weakly Positive Immune.
N. S.—Negative Susceptible.

Group IA consisted of 16 patients ranging from 3 months of age to 42 months of age with an average of 10.2 months. None of these patients had received injections of H. pertussis vaccine. Fourteen of these were negative susceptible and 2 were weakly postive immune.

Group IB with 6 patients ranging from 5½ years to 14 years with an average of 8.8 years who had not been injected with H. pertussis vaccine at any time. All of these patients were, according to the skin test, negative susceptible.

Group II. Five patients in this group from 5½ years to 10 years of age with an average of 6.9 years. All of these patients had had whooping cough disease from 2 years to 8 years—average of 4.4 years prior to skin testing. Four of the patients were strongly positive immune and one was just over the borderline.

Group III. The 32 patients in this group had received injections of H. pertussis vaccine. The patients ranged from 17 months of age to 9 years of age.

Twenty of this group had been injected with H. pertussis vaccine within 3 years of the skin test, all being positive immune. Two of the patients had been given vaccine 4½ and 7½ years prior to test, being positive immune.

Five patients given H. pertussis vaccine 3 to 6½ years previously, tested weakly positive immune.

Three patients injected with H. pertussis vaccine from 15 months to 3½ years previously were negative susceptible.

Two patients were negative susceptible 4 to 4½ years following injection of H. pertussis vaccine.

Comments

The observations made in the course of this study tend to indicate that a purified agglutinogen should prove effective and satisfactory for determining the immunity index for whooping cough. The pertussis skin test is simple and easily performed and the interpretations of the test are not difficult.

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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

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Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Vol. 19 February, 1947 No. 2

MUCH NEEDED INFORMATION

The Council on Medical Service of the American Medical Association is to be congratulated on the excellence of its newly issued compilation "Voluntary Health Insurance vs. Compulsory Sickness Insurance." The booklet of 124 pages contains twenty-four articles from various sources and an introduction by Edward J. McCormick, M. D., Chairman of the Council, and constitutes a handy reference work for writers, speakers, and debaters, as well as for the information of the doctors and the public in general. We quote from the introduction:

If the answer to whatever medical problems may exist cannot be given by the 90 per cent of physicians whose opinions are generalized in this work, there can be no logical answer. We expect engineers, lawyers, ministers, and architects to guide us when national problems in their respective fields confront the Nation. We follow our great military and naval leaders when our country is threatened by other nations. This is as it should be. Trained men should guide us in their particular fields. Who would desire to have his house built by a doctor or lawyer? Who would choose as his architect a soldier or minister? Who would feel safe in a court of law represented by a social worker, a politician, or an engineer?

The medical profession is opposed to communism, socialism, collectivism, and compulsion in any field of endeavor in America and especially in the medical field. There is no selfishness in our stand. We desire better living conditions and increased opportunity for all. We recognize the fact that medical progress must cease and that sickness and mortality will increase under any government program of compulsory health insurance. We do not desire the promised increase in medical incomes under government control.

It is the hope of the Council on Medical Service of the American Medical Association that the material herein assembled will give to those who peruse it a few of the reasons for the desire of all physicians to remain free men and free women. As we have contributed during war and disaster, so we now desire to contribute in peace to the welfare of all and to the preservation of Democracy.

We hope that this booklet will be read thoroughly by doctors and the public alike. The importance of the subject is great. Sooner or later the public will have to decide which path it will travel. The final decision should be based on the fullest possible information—not propaganda. Therefore, such a compilation of source material from widely scattered publications, all authoritative, and issuing from a responsible Council of the American Medical Association is a valuable step in the right direction.

Along the same lines, the Medical Society of the State of New York, through its Bureau of Public Relations, has prepared and will shortly issue a handbook in the form of questions and answers on the subject of sickness insurance, entitled "Check and Double Check," by Mr. J. Weston Walsh, a school teacher of Portland, Maine. Mr. Walsh discusses the question of voluntary health insurance vs. compulsory sickness insurance, giving what he thinks are the outstanding points in the controversy, from the standpoint of a plain American citizen, just as they impressed him in the course of his own work on the handbook.

Mr. Walsh was asked to do the job because this question will ultimately be decided in the forum of public opinion. He is thinking here of what would happen to *him* under compulsory sickness insurance. As an average citizen, he does not like it. Legislators already know the doctors do not like it. Here is the evidence that the J. Weston Walshes of the country do not like it either.

It is hoped this subject will be approached in the spirit of inquiry, which is Mr. Walsh's attitude, before opinions are formed on so important a matter as how to obtain medical care. Hence, the title, "Check and Double Check."

Free of large masses of statistics, and written in a colloquial style, the author's aim is simplification without distortion. This painstaking work is offered for use as a speaker's handbook. For this purpose, a ready-reference index is provided. The pamphlet is intended for editorial writers, radio commentators, ministers, teachers, lawyers, and members of Chambers of Commerce, Parent-Teachers' Associations, Women's Clubs, labor unions and Granges, as well as doctors called upon to speak on the subject.

Copies of the American Medical Association's pamphlet may be had by writing to the Council on Medical Service, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois.

Those desiring copies of "Check and Double Check," may obtain them by writing to the Bureau of Public Relations, Medical Society of the State of New York, 292 Madison Avenue, New York 17, New York.
N. Y. St. J. M., Jan. 1, 1947.

MISCELLANEOUS

Voluntary Health Plans

"Driving to complete the voluntary health insurance program for the care of the American people is the big job facing local, state and national medical organizations today," according to Thomas A. Hendricks, secretary of the Council on Medical Service of the American Medical Association. "More than 80 plans sponsored by medical societies in 33 states covering 4,000,000 persons are now in operation and the task has just begun.

"The pioneering state of voluntary health insurance is nearing completion and, nationally, we are rapidly entering the development stage. Only two states do not have a plan operating or in the process of formation. Plans for a prepayment program are now being made in 13 states and the District of Columbia. Growth of the plans now in operation has been rapid, the over-all expansion within the last six months being as phenomenal a production figure as has appeared in modern insurance records.

"The enrollment in prepayment plans has accelerated slowly. This was partly due to the difficulties developed in the early experimentation stages through which such plans had to pass, and partly to hesitancy on the part of doctors to plunge into an untested field of endeavor. As the number of plans has increased, so too has the acceleration in enrollment. During 1945 the over-all increase was 114 per cent. For the first six months of 1946 the enrollment increase was approximately 40 per cent, bringing the total to nearly the 4,000,000 mark. Indications are that enrollment will reach 5,000,000 by early 1947.

"One of the objectives of the Council on Medical Service is to present the facts in regard to advantages and disadvantages of the various plans, keep records up to date on all new developments in the medical care field, conciliate differences of opinion as to the various forms of insurance—in short, view the entire question impartially and objectively, in order to do everything possible to encourage the wholehearted acceptance by every state society of a practical, workable plan.

"The whole insurance program is still experimental. No one knows the complete answer. Hence, the council hopes to encourage all types of plans that meet the minimum requirements set by the council to maintain the standard of medical service for the protection of the public.

"The council is now set up to do the job of (1) encouraging development of new plans; (2) keeping the profession informed as to developments, and (3) helping to increase the enrollment of plans already established.

"A prepayment division of the council has been created with George Cooley, assistant secretary of the council, keeping in contact with medical society-sponsored plans; Howard Brower, maintaining contact with private insurance groups; and L. S. Kleinschmidt, concentrating his efforts on encouraging rural enrollment and maintaining contact with the newly created consumer-cooperative movement.

"Prepayment plans have progressed rapidly in the cities, but development in the rural areas has been slow, although several plans have been making notable advancements along this line.

"Jay Ketchum, Lansing, executive vice president of Michigan Medical Service, is acting as consultant for the council.

"Within the past few months private insurance carriers are showing an intense interest in medical and surgical care coverage and, as a result, there have been many conferences both formal and informal. A joint conference was held with representatives of large insurance associations in Chicago in September, with Dr. E. J. McCormick, of Toledo, chairman of the council, presiding.

"One of the most important developments has been the creation of Associated Medical Care Plans, with Dr. H. L. Schriver, of Cincinnati, O., as president; William M. Bowman, San Francisco, vice president; Jay Ketchum, secretary; and Dr. Norman Scott, Newark, N. J., treasurer. In a sense this is a trade organization of plans. It can be of great service in developing reciprocity, details of selling, cooperative actions and procedures. Frank Smith, who has served with the California Physicians' Service, San Francisco, as director of public relations, recently has been appointed A. M. C. P. director. Although A. M. C. P. will be housed with the council and its work integrated with the work of the council and in accord with the policies of the council, it is a legal entity separate and distinct from the council. The board of trustees has allotted through the council sufficient funds to this organization to get started.

"The council is also aided by Frank Dickinson, Ph. D., director of the Bureau of Medical Economic Research of the American Medical Association, and T. V. McDavitt of the A.M.A. staff has served as the legal advisor of A. M. C. P."

Veterans Administration Adopts Artificial Eye Developed By Army

The Army's plastic artificial eye has been used by more than 7,500 former soldiers during the past three years and has been adopted by Veterans Administration in furnishing ocular prostheses to patients, the War Department announced recently.

Developed first in 1943 by a former major in the Army Dental Corps while stationed in England, this type of acrylic eye has practically replaced glass eyes which were used almost exclusively before World War II. The Army Medical Department developed this eye after the war broke out, when both civilian and military supplies of artificial eyes were depleted due to high breakage and inability to replenish supplies. Glass eyes then used in the United States were largely German-made.

As early as 1943, the Army made plans to discard the easily breakable, inferior, custom-made glass eye when Major, (then Lieutenant) Stanley F. Erpf of San Francisco, California, assigned to the job by Col. Derrick T. Vail, Consultant in Ophthalmology in ETO, successfully demonstrated the artificial eye made of water-clear plastic and individually fitted and colored. In January 1944 the first training center for ophthalmoprosthetists was organized at the 30th General Hospital, England. Forty American dental officers and 10 British dental officers attended.

Dr. Robert E. Stewart, Chief of the Ophthalmoprosthetic and Restoration Division of The Prosthetic Appliances Service of Veterans Administration, said today that all 15 technicians making artificial plastic eyes for VA are Army-trained. They were dental officers and technicians especially trained in this work during the war.

"The Army-developed artificial eye has proven superior to any other type of ocular prosthesis available today," Dr. Stewart declared. "Of about 500 World War II veterans who have applied to Veterans Administration for ocular prothesis aid, none had any serious complaint about the acrylic eye. They wanted lost eyes replaced, socket corrections or needed re-fitting because of other operations.''

Dr. Stewart said the Army-developed eyes were never broken when dropped nor has the coloring in the eyes deteriorated. He explained that some eyes had become roughened due to hard usage, but this is easily remedied.

Veterans Administration scientists have changed the Army's painting technique slightly in making the eyes, but that is the only difference in government-issue and V A artificial eyes. Some scientific circles were of the opinion that the nylon threads used in veining the eyes would deteriorate and lose their original color. Dr. Stewart reported that no such deterioration has been noted by V A specialists.

Another principal feature of the durability of Army-founded artificial eyes is that there is no evidence of etching or corrosion even in eyes worn by patients over a three-year period.

Credit for the development of the Army's acrylic eye is accorded by Major General Norman T. Kirk, The Surgeon General, to Major Erpf, who initially introduced the eye which has undergone few modifications. He returned to the United States from England in June of 1944 to collaborate with Major Milton S. Wirtz, Latimer, Iowa, and Major Victor H. Dietz, Chicago, Illinois, ocular prosthetic specialists in perfecting the acrylic eye, at Valley Forge General Hospital, Phoenixville, Pennsylvania. A school was started here to train technicians who were then sent to other general hospitals.

By that time, 13 general hospitals in the European Theater of Operations possessed personnel and facilities for the fabrication of acrylic eyes. In October, 1944, 12 general hospitals in the United States were similarly equipped. The Army continued to enlarge upon its artificial eye program until in October, 1945, 30 Medical Department installations have inserted more than 7,500 plastic artificial eyes. When V-J Day came there were acrylic eye teams in Hawaii and the Philippines.

General Kirk said that Army patients equipped with this prosthesis were issued new eyes whenever medically necessary. No requests were received for replacement of the eye because of structural or material weakness. Veterans Administration reports the same findings among veterans wearing this acrylic eye.

News Notes, Jan. 15, 1947.

Venous Thrombosis

Venous thrombosis, a condition in which the blood clots in the veins, is of two types—thrombophlebitis and phlebothrombosis, according to Alton Ochsner, M. D., of New Orleans. He states that unless there is a differentiation between the two, treatment is ''likely to continue to be unsatisfactory.''

Writing in the December 7 issue of *The Journal of the American Medical Association,* Dr. Ochsner points out this difference: the blood clot in thrombophlebitis is the result of inflammatory changes and is firmly attached to the vein wall; the blood clot in phlebothrombosis is the result of tissue injury and can become detached easily from the vein wall.

Thrombophlebitis usually can be diagnosed easily from symptoms such as fever, pain and swelling. The patient's chances of recovery are good, but, if he does not receive effective treatment, complications such as swelling, pain, ulceration of the legs and infection may develop.

In contrast, patients with phlebothrombosis, although apparently not ill, are potential fatalities because of the danger that the clot will become detached and be carried by the blood stream to the lungs where it may act as a plug and cause death.

Phlebothrombosis is caused by two things—an increase in the ability of the blood to clot due to tissue injury and a slowing of the flow of blood as a result of the patient's being confined to bed or having a leg in a cast. Early detection of this condition is possible if the patient is examined for tenderness of the legs following any tissue damage such as an operation.

Dr. Ochsner states that ''there is a definite relationship between venous thrombosis and the seasons.'' This has been pointed out by several other investigators. One of these found the greatest incidence of thrombosis from December to February. He believes that grippal infections are responsible for this difference.

Another group of investigators reported that in a series of 332 cases thrombosis was observed in 32.9 per cent in the winter, 21.9 per cent in the spring, 18.9 per cent in the summer and 20.3 per cent in the fall.

"It is my belief that the increased incidence of venous thrombosis during the winter months is due to the vasospastic influence of the cold weather," states the author. "This explains the difference between the incidence of venous thrombosis observed in the northern and in the southern clinics. My associates and I showed that the incidence of venous thrombosis in the northern clinics was almost double that in the southern clinics. The average incidence in the northern states was 0.74 per hundred thousand population as contrasted with 0.41 in the southern states."

Several suggestions are made by Dr. Ochsner which, if followed, he believes should prevent the formation of clots in the veins. He says that patients should refrain from smoking for a period of from 10 to 14 days before an operation; overweight patients should reduce before undergoing surgery; any abnormal state of the blood, such as anemia, should be corrected. After the operation the author favors leg exercises and deep breathing to increase the circulation.

For the treatment of thrombophlebitis the author suggests the use of a local anesthetic, procaine hydrochloride. "The pain is relieved instantly, the temperature falls rapidly and the swelling subsides within a few days," he writes. "My experience has shown that the relief of pain is complete and permanent in 90 per cent of the patients, whereas in 10 per cent a second block [of the local involuntary nerve centers] is necessary to give permanent relief."

Dr. Ochsner recommends immediate surgery as soon as phlebothrombosis has been diagnosed. He does not favor widespread use of anticoagulants such as heparin and dicumarol because, although they will prevent further clotting of the blood, they will not prevent the detachment of the clots already formed.

Streptomycin in Pylephlebitis

The new antibiotic drug—streptomycin—which comes from a group of living organisms found in garden soils, river muds, peats and compost heaps has proved effective in the treatment of pylephlebitis, a usually fatal disease.

Two Minneapolis physicians, writing in the February 22 issue of *The Journal of the American Medical Association*, state that they used the drug in treating a case of pylephlebitis and the patient's recovery was dramatic. Pylephlebitis, which is an inflammation on the inside of the principal vein of the liver, is often a complication of a gangrenous appendix. Data on cases of the disease with multiple abscesses of the liver show an exceedingly high mortality rate.

Drs. J. H. Wishart and L. J. Peterson, who are from the Veterans Administration Hospital, Minneapolis, and the Departments of Medicine and Surgery, University of Minnesota, report that in one series of 68,198 cases of appendicitis there were 247 cases complicated by multiple abscesses of the liver, an incidence of 0.36 per cent. Another investigator reported 1,463 cases of appendicitis with 12 cases of pylephlebitis.

Drs. Wishart and Peterson say that in 1938 two cases were treated with sulfanilamide with subsequent recovery; in another case sulfathiazole treatment resulted in cure and in 1945 a case was treated with penicillin and the patient recovered completely.

The two Minneapolis physicians used streptomycin in treating a 28-year-old man who was admitted to the hospital with generalized cramping abdominal pain, recurrent chills and fever and headache. A diagnosis of acute appendicitis was made and the patient was operated on two hours later. The man's condition remained unchanged after the operation. His fever remained high and he suffered recurring chills. Penicillin treatment was started a day after the operation, but was discontinued after the fourth day because there was no great improvement in the patient's condition.

The postoperative clinical course and laboratory observations resulted in a diagnosis of pylethrombophlebitis. The patient was placed on streptomycin therapy immediately. At the start, he was given the drug every six hours.

There was a gradual improvement in his condition, the doctors say, adding that "at no time while on streptomycin therapy did he receive any other medicament that in any way could confuse the results obtained by streptomycin therapy."

Cold Anesthesia For Surgery

"Experience to date continues to confirm the safety and benefit of refrigeration anesthesia," according to Drs. Lyman Weeks Crossman and Frederick M. Allen of New York, who first demonstrated the advantages of this type of anesthesia.

Writing in the February 8 issue of *The Journal of the American Medical Association,* the physicians, who are from City College, Welfare Island, state that the "trial period of surgical refrigeration may be measured from the first publication of experiments on animals and clinical cases in 1937 or, better, from the adoption of the method on the surgical service of the City Hospital in 1941."

Experiments have demonstrated that cold serves as a shockless anesthetic in surgery, preserves injured tissue and restrains infection until the patient is strong enough to undergo an operation. Moreover, it reduces pain and swelling.

Drs. Crossman and Allen point out that "in cases of severe trauma of limbs, refrigeration serves preeminently to gain time in an emergency by preserving the injured part for days or weeks until the patient gains sufficient constitutional strength to withstand amputation. A secondary benefit, however, is reported as the development of collateral [secondary] circulation during the time thus gained, so as to permit a lower level of amputation. This may make the difference between an emergency amputation high in the thigh and an amputation just above the knee a few weeks later. . . . This difference has practical importance for the patient's subsequent walking and earning ability."

The authors recall that the "first observations along the line of preservation of infected or injured parts were made when patients entered our hospital with acutely dangerous infected gangrene, but legal permission for the necessary amputation could not be immediately obtained. We thus learned that packing such limbs in ice or ice bags made possible not only a safe postponement of the operation for several days but even an improvement in the general condition so as to lessen the operative risk. . . .

"A more definite preservation may be attempted in treatment of other infections of the limbs, such as gas gangrene. Refrigeration is helpful even when amputation is inevitable, but in less extreme conditions the radical chilling contributes to save the limb in two ways: by directly checking the toxin [poison] production and its necrotizing action on the tissues and by gaining time for administration of drugs or other systemic means of cure. A tourniquet is not employed except as a preliminary to amputation."

Dr. Crossman cites a previous report of his in which he illustrates how refrigeration aids minor surgery in "restoring fingers which have been cut off so as to hang by a mere shred of skin. Such a finger may be kept well chilled according to instructions given by telephone and will thus remain viable [living] at least during several hours which may elapse before the patient can reach the doctor. Theoretically the interval might extend to 24 hours or more, though there is no clinical proof of such a maximum. After the finger is sutured in place the reduced temperature is still continued for several days but is raised slightly day by day as the nutrition of the severed part improves."

A. C. S. Meets in Baltimore

The first of a series of seven Sectional Meetings of the American College of Surgeons will be held in Baltimore on March 10 and 11, with headquarters at the Lord Baltimore Hotel, according to an announcement by Dr. Irvin Abell of Louisville, President and Chairman of the Board of Regents. Maryland, the District of Columbia, and surrounding states will participate. The other six Sectional Meetings will be held in Omaha, March 14-15; Fort Worth, March 20-21; Providence, March 28-29; San Francisco, April 7-8; Vancouver, April 21-22; and Winnipeg, April 28-29.

The medical profession at large, medical students, and hospital personnel, are invited to join with the Fellows of the College in the meetings which will be adressed by nationally prominent visiting and local speakers.

The Sectional Meeting will open at 8:30 both mornings with the showing of medical motion pictures. On the first morning these will be followed at 10:00 o'clock by a scientific session for the medical profession on "Carcinoma of the Stomach," "Advances in Anesthesia," "Surgery of the Kidney," and "Surgery of the Thyroid in Relation to the Use of Thiouracil." At the same hour hospital personnel will open a symposium on five major postwar hospital problems.

Luncheons will be held on both days followed by round table conferences on subjects presented at the preceding morning sessions. The panel discussions for medical personnel on the first afternoon will be on "Intestinal Obstruction" and "Fractures." At a concurrent meeting, hospital personnel will discuss the management of emergency patients. On the first evening a dinner for Fellows, other members of the medical profession, and hospital representatives will be held, following which there will be talks on activities of the College, a premiere showing of a medical motion picture now under production, and a reception.

On the second morning, following the showing of medical motion pictures, the medical program will be devoted to discussion of "The Use of Antibiotics in Surgical Practice," "Surgery of Malignant Growths of the Neck," and "The Prevention of Pulmonary Embolism." The hospital personnel will hold a symposium on "Basic Considerations in an Efficient Personnel Management Program." Panel discussions on "Postoperative Care" and "Carcinoma of the Colon" will feature the afternoon medical program, while the hospital personnel will hold a round table conference on questions arising out of the three previous sessions and other problems not included in the program.

Blood Vessel Diseases

Two Veterans Administration physicians from the Wadsworth General Hospital in California, writing in the March 1 issue of *The Journal of the American Medical Association*, report a new method for the relief of patients suffering blood vessel diseases of the arms and legs with gangrene.

The method, it is reported, not only relieved the "intractable pain," but also cleared the gangrenous condition and, in some cases, prevented possible amputation.

The treatment is described in *The Journal* by Drs. Zolton T. Wirtschafter and Rudolph Widmann, who are from the Department of Medicine, Wadsworth General Hospital, Veterans Administration Center, Los Angeles. Physicians cooperating in the work included Roger O. Egeberg, chief of the medical service, Wadsworth General Hospital; B. O. Raulston, dean of the University of Southern California Medical School, and William H. Leake and Edmund R. Ware of the University of Southern California and Wadsworth General Hospital.

The new method consists of injecting into the patient's vein a substance called sodium ascorbate, which is related to vitamin C. This is followed by the intramuscular injection of a solution known as histidine monohydrochloride with the simultaneous injection under the skin of additional sodium ascorbate. The two organic compounds—sodium ascorbate and histidine monohydrochloride—are given every four, six, eight or 12 hours, depending on the severity of the patient's condition. In addition, all patients are given ascorbic acid or vitamin C by mouth each day.

It is believed that the body's reaction is a transformation of the histidine into histamine by the action of the ascorbic acid within the body.

This new method of treatment causes the body to produce histamine, classified as a chemical substance, which is known to cause a relaxation of the blood vessels and an increase of blood flowing through them. The authors believe it is the first time that this technique has been tried to produce histamine itself in the patient's own body for the purpose of treating disease.

Drs. Wirtschafter and Widmann tried their treatment on 11 patients suffering from various forms of blood vessel disease. Four of the patients were suffering from gangrene and in one of them diabetic gangrene involved the fourth right toe.

In reporting the results, the doctors say: "All of these patients have up to the date of this report responded favorably to the therapy described and have not required amputations. The relief of intractable pain has been dramatic in the persons afflicted with it. The relief has occurred within six hours to three days after the institution of treatment. Patients with gangrene, regardless of the cause, have described a sensation of increased warmth in the affected limbs. . . .

"Extremities exhibiting black, shriveled, hard, mummified toes have shown areas of rubor (color) in the affected parts 48 hours after the institution of therapy."

The doctors explain further that in all cases exhibiting gangrene, there was a gradual return of function of the extremities although sensation was slow in returning.

In two instances of a certain type of blood vessel disease "the response was rapid," the doctors state, adding: "The relief of pain, the sensation of warmth and an increase in temperature of the affected extremities were again observed."

The physicians say their technique is now being investigated for the treatment of many other diseases in which circulation has failed, including coronary artery disease, angina pectoris and hypertension, and other conditions related to a deficiency of histamine.

Prize Contest

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces a foundation prize contest.

For further information write Dr. James R. Bloss, Secretary, 418 Eleventh Street, Huntington 1, West Virginia.

Correction

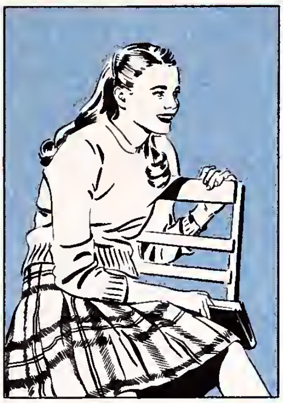
In the article entitled "Penicillin Treatment of Pneumococcic Meningitis" by George J. Boines, M. D., in The Journal of February, 1946, page 37, paragraph 1, line 10 appears the word "thoracocentesis." This should have read "rachicentesis."

BOOK REVIEW

Allergy in theory and practice. By Robert A. Cooke, M. D. Attending Physician and Director of the Department of Allergy, the Roosevelt Hospital, New York City. Pp. 572, with 43 illustrations. Cloth: price, $8.00 Philadelphia: W. B. Saunders Company, 1947.

The book is most complete and practical, and is written in a fascinating style. It is divided into nine sections, including an appendix. The opening section deals with the principles and theory of allergy, as well as the pathological and immunological aspects. The following sections then deal with the various types of allergy including asthma, hay fever, allergies of the skin, nervous system, cardiovascular system, digestive system, and the eye. Particularly illuminating are the special articles on allergic neuropathies including migraine, Meniere's Disease, and histamine cephalgia. Also, there is an interesting chapter on allergy in infancy and childhood. Section 8 deals with the bacterial allergies, as well as the inhalents, foods, drugs, endocrine, serum, and physical allergies. These chapters are most complete and bring one up to date with the causative factors. The final chapter in Section 9 deals with the opinion as to the value of the different techniques, as to skin testing, and finally, laboratory procedures, including the methods by which the various antigens are prepared. The appendix deals with the nonspecific causes, as psychic, nutritional, and endocrine factors in relation to allergy.

This book is most readable, practical, up-to-date, and certainly can be recommended to the general practitioner for references, as well as to the specialist in the allergic field.



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[1] Kugelmass, I. N.: Newer Nutrition in Pediatric Practice, p. 345, Lippincott, Philadelphia, 1940.

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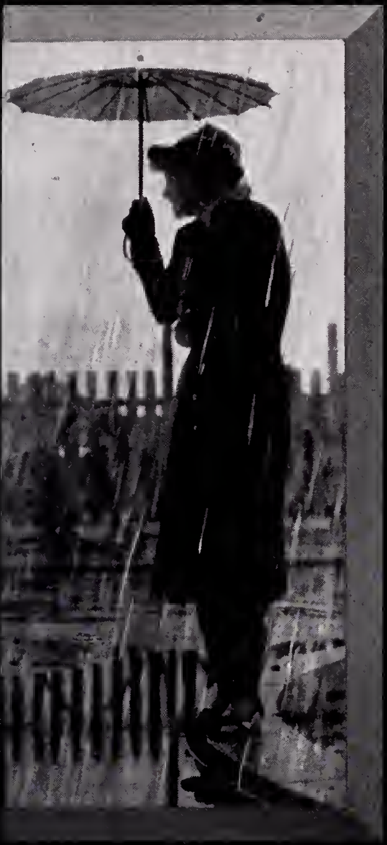

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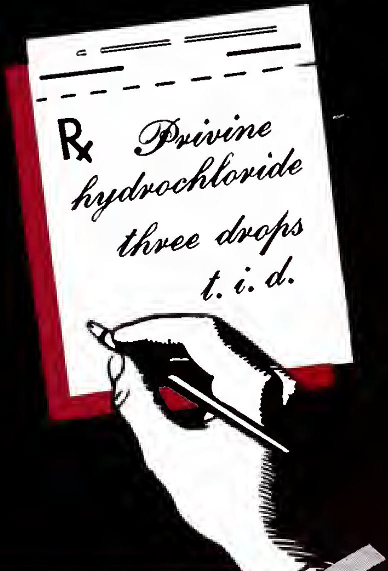

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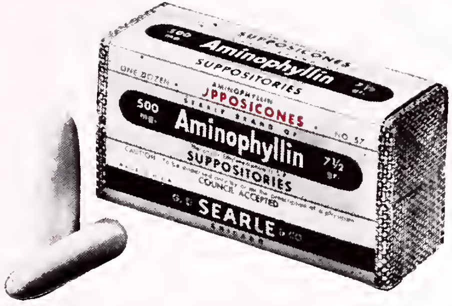

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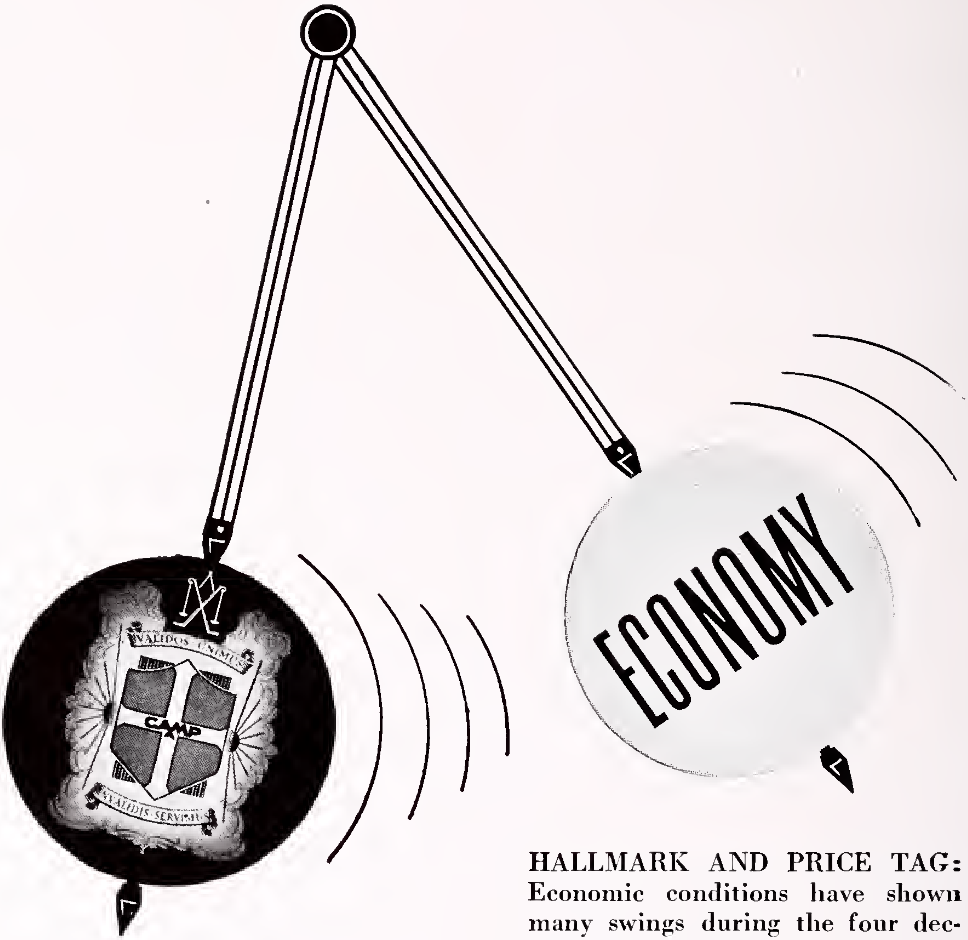

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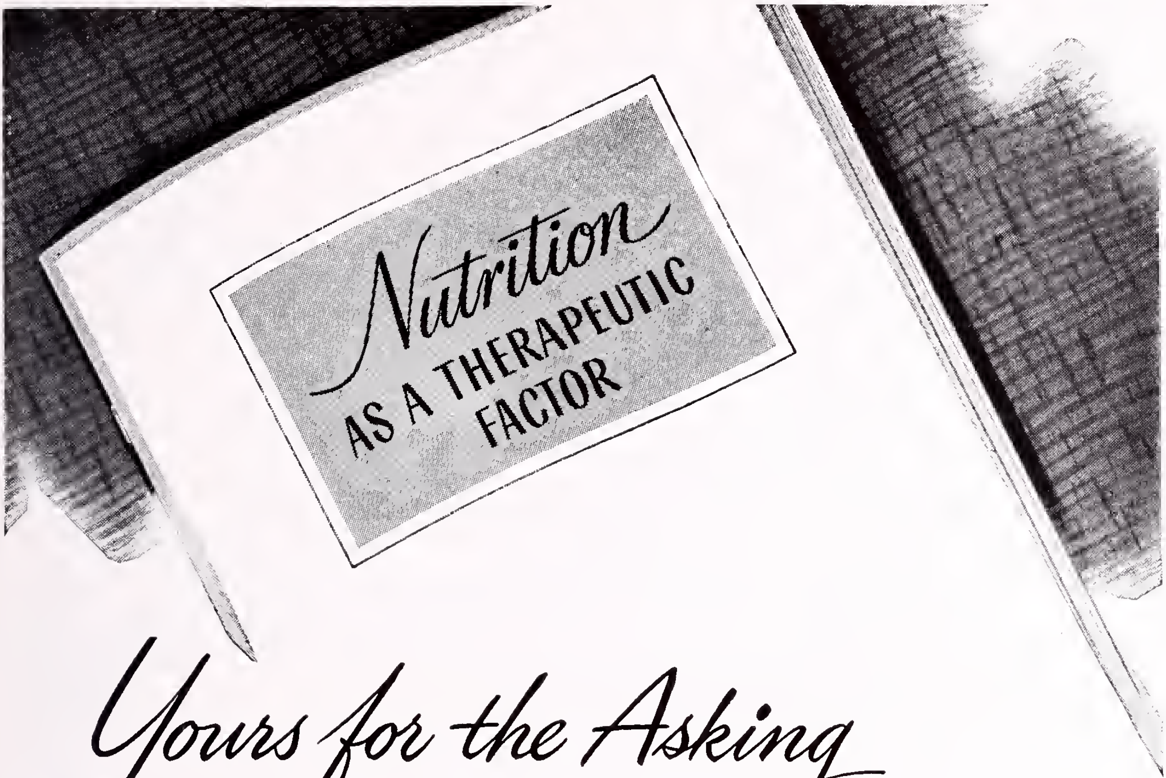

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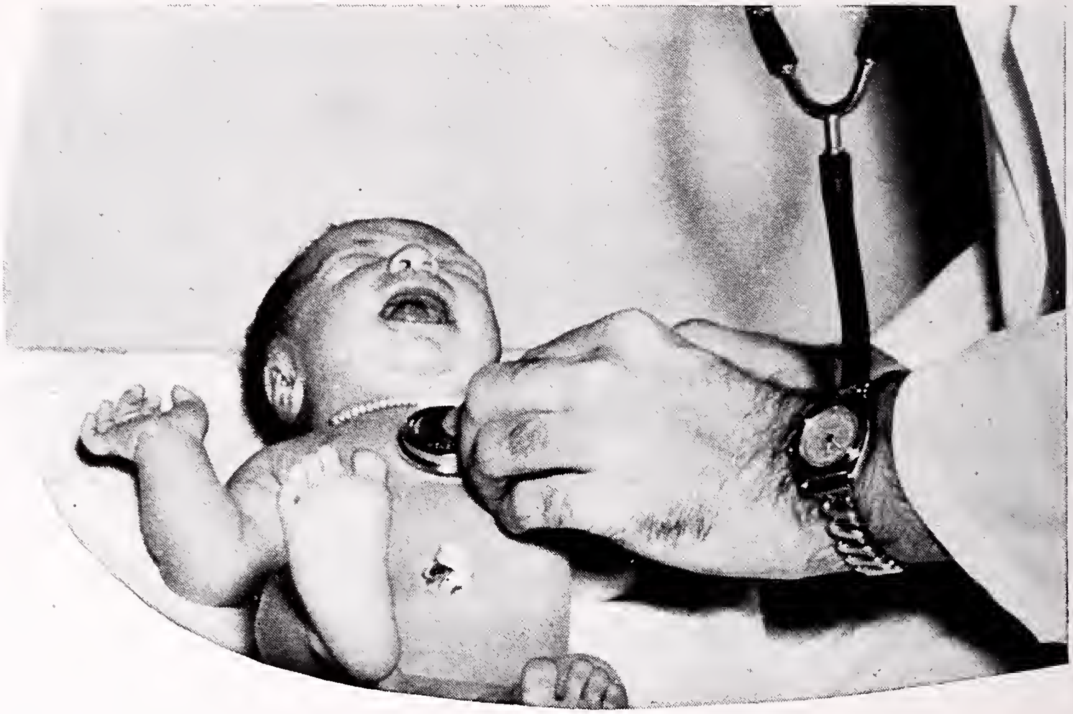

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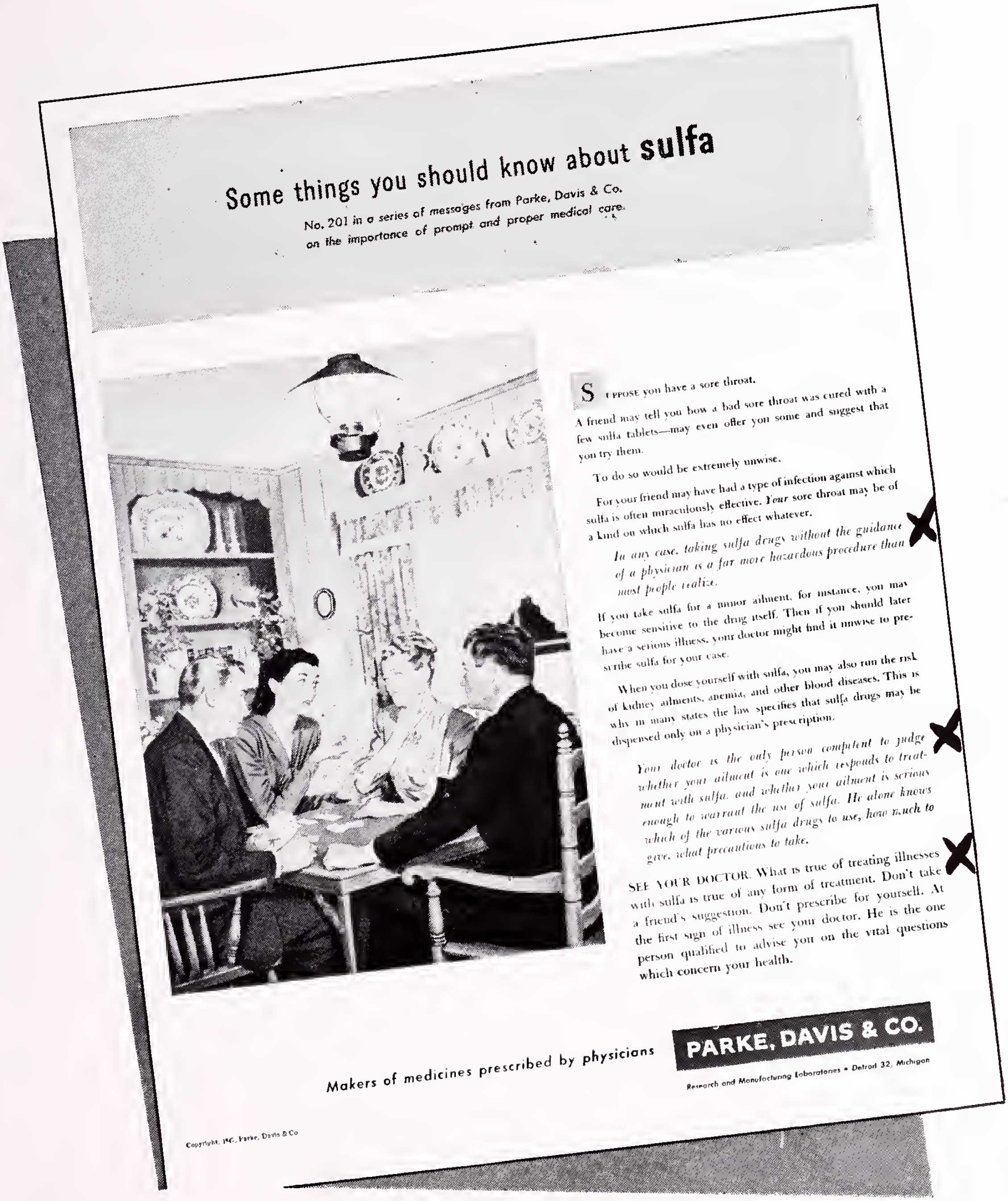

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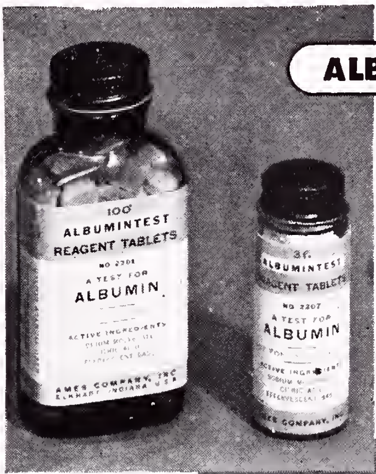

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(OR IS IT?)

BY GROUCHO MARX

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Why, just think of all the wonderful, wonderful things you can do *without* money. Things like—well, things like—

On second thought, you'd better keep on saving, chum. Otherwise you're licked.

For instance, how are you ever going to build that Little Dream House, without a trunk full of moolah? You think the carpenters are going to work free? Or the plumbers? Or the architects? Not those lads. They've been around. They're no dopes.

And how are you going to send that kid of yours to college, without the folding stuff? Maybe you think he can work his way through by playing the flute. If so, you're crazy. (Only three students have ever worked their way through college by playing the flute. And they had to stop eating for four years.)

WHERE'S MY DOUGH ?

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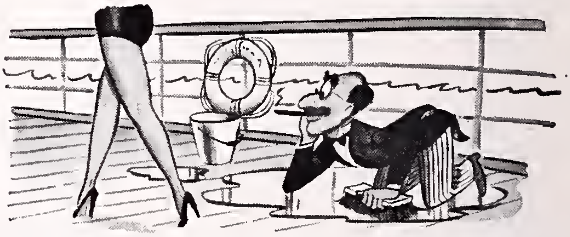

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But now a careful histologic study has been made which reveals a startlingly high incidence of rickets in children 2 to 14 years old. Follis, Jackson, Eliot, and Park* report that postmortem examination of 230 children of this age group showed the total prevalence of rickets to be 46.5%.

Rachitic changes were present as late as the fourteenth year, and the incidence was higher among children dying from acute disease than in those dying of chronic disease.

The authors conclude, "We doubt if slight degrees of rickets, such as we found in many of our children, interfere with health and development, but our studies as a whole afford reason to prolong administration of vitamin D to the age limit of our study, the fourteenth year, and especially indicate the necessity to suspect and to take the necessary measures to guard against rickets in sick children."

*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

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INCORPORATED 1789

VOLUME 19
NUMBER 3

MARCH, 1947

Per Copy, 20c
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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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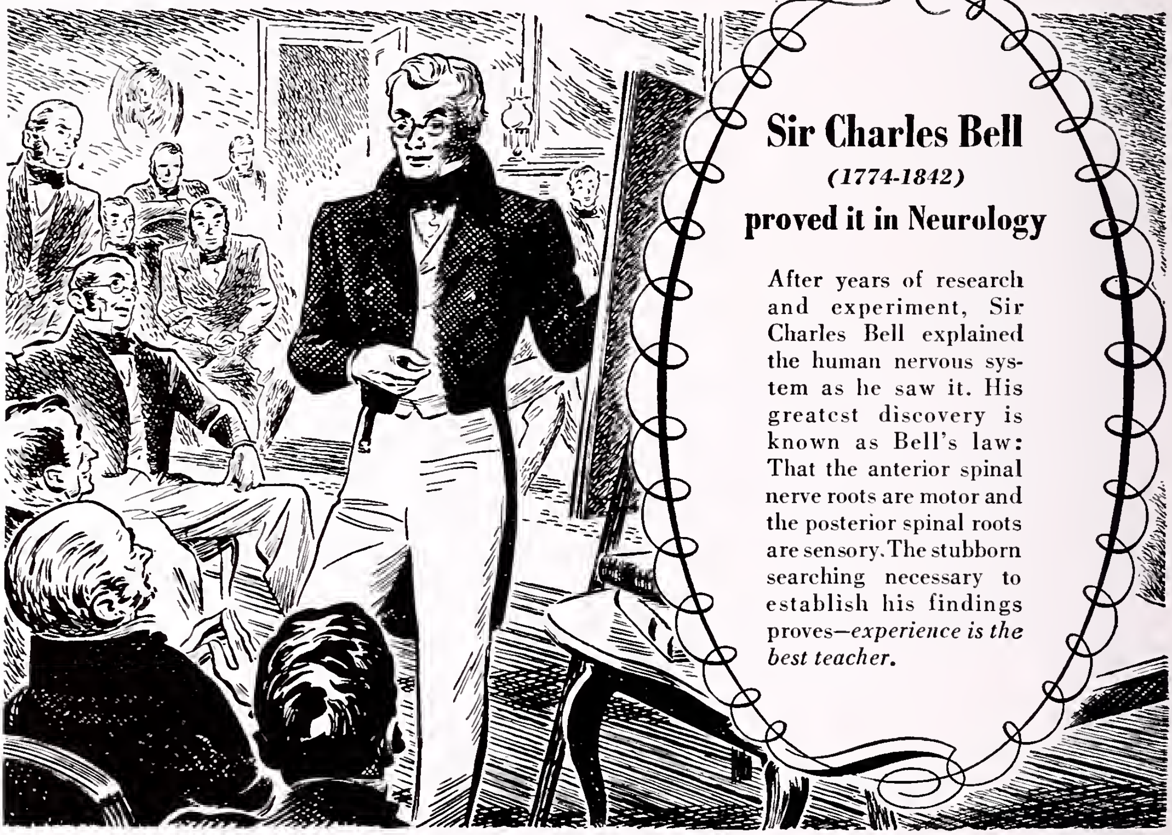

Sir Charles Bell
(1774-1842)
proved it in Neurology

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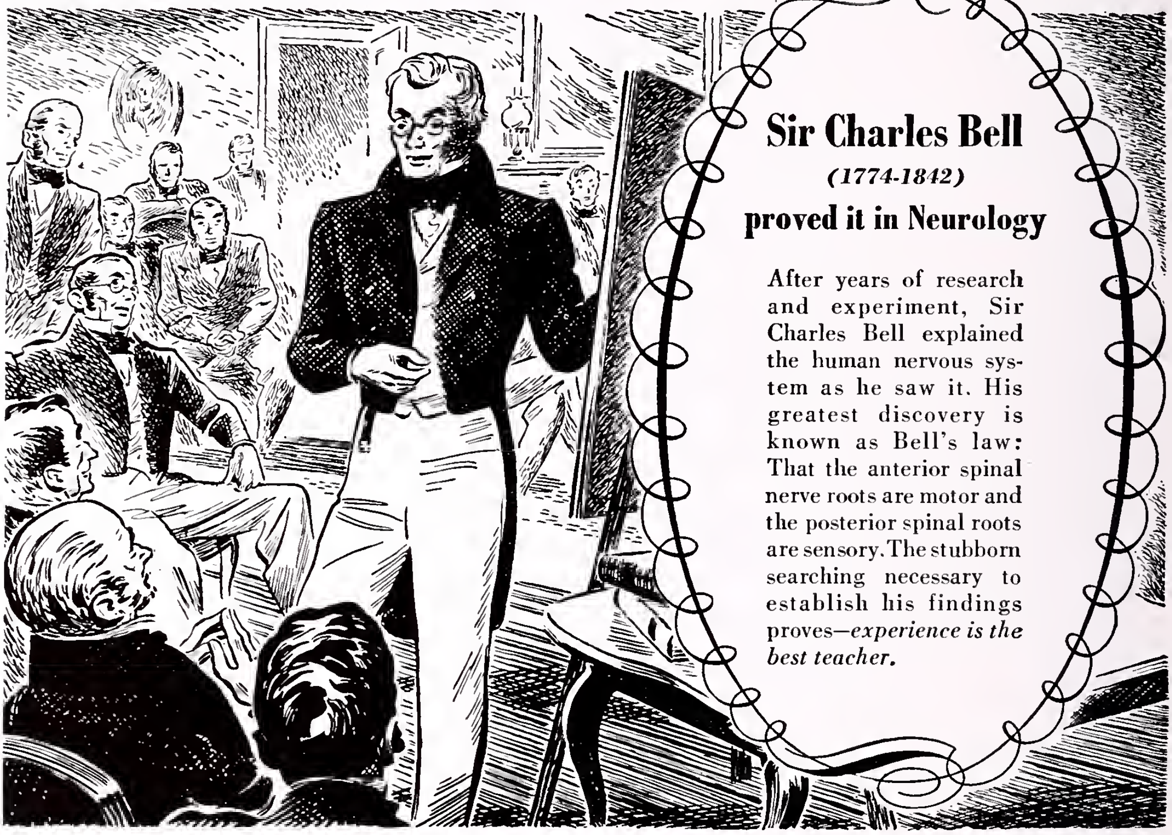

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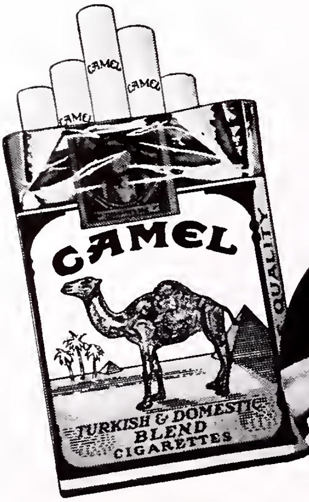

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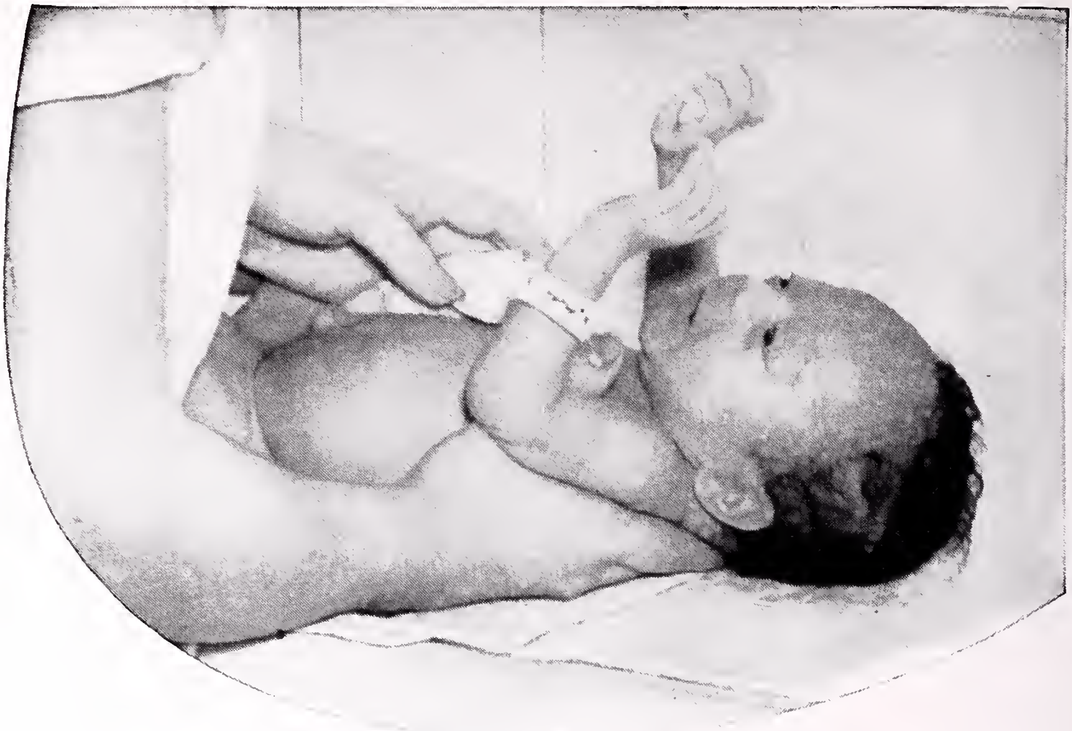

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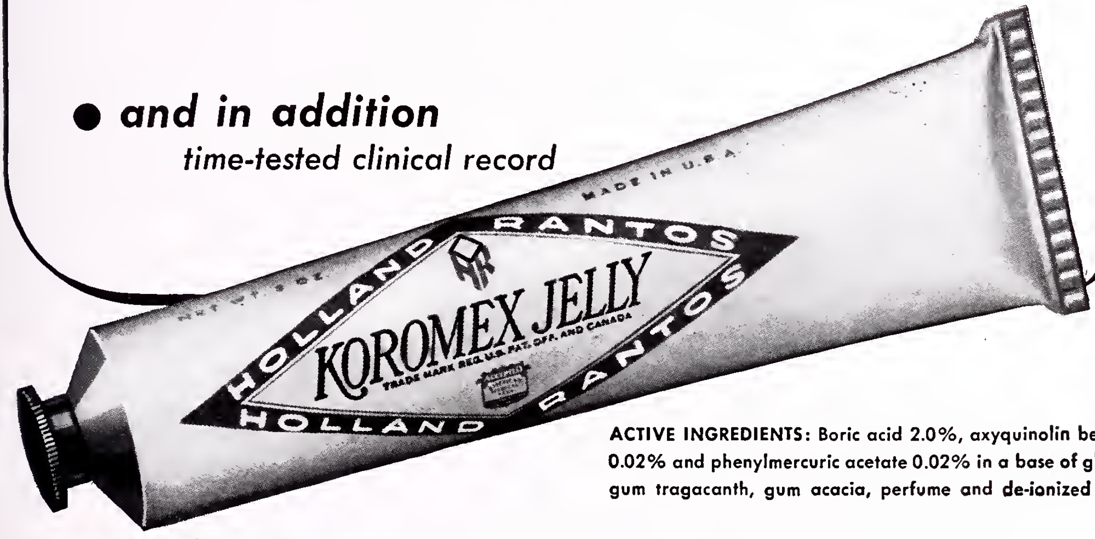

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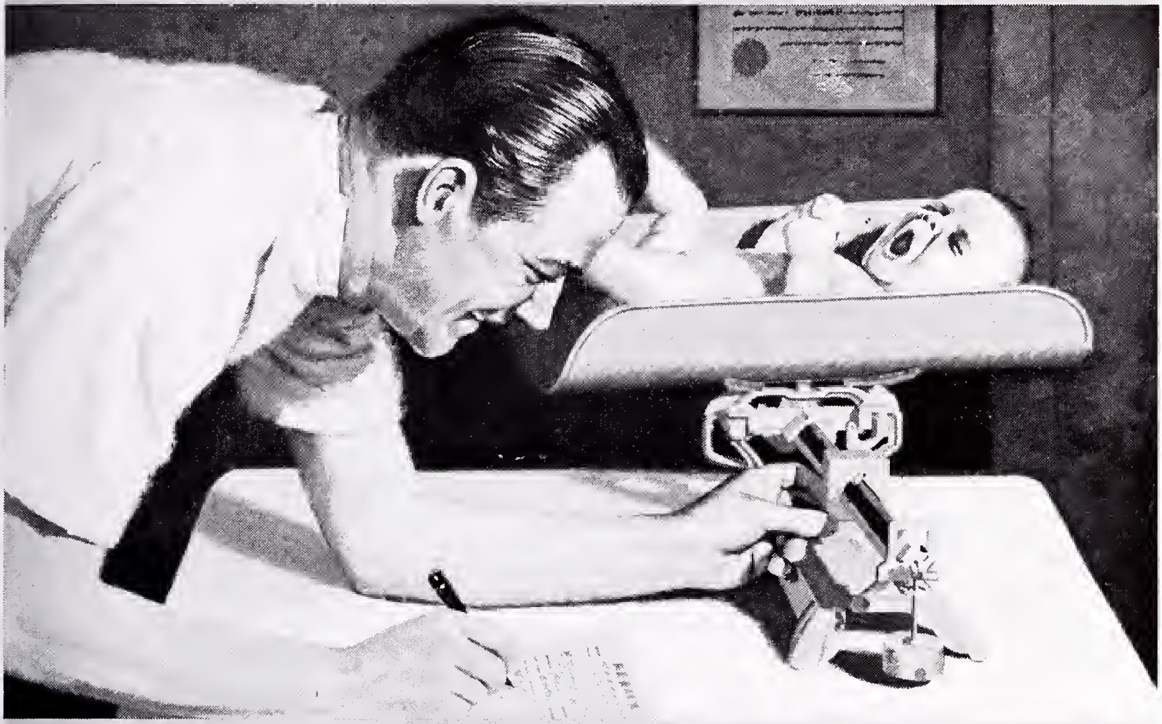

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give enough-soon enough-long enough

(1) Menefee, E. E., Jr., and Atwell, R. J.: South. M. J. 39:726 (Sept.) 1946.
(2) Woodward, F. D., and Holt, T.: J.A.M.A. 129-589 (Oct. 27) 1945.

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[1] Human Fertility 10: 25 (Mar.) 1945.

[2] Warner, M. P.: J.A.M.A. 115: 279 (July 27) 1940.

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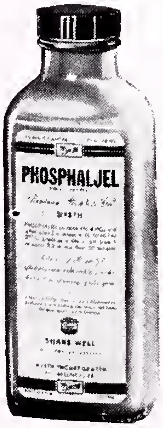

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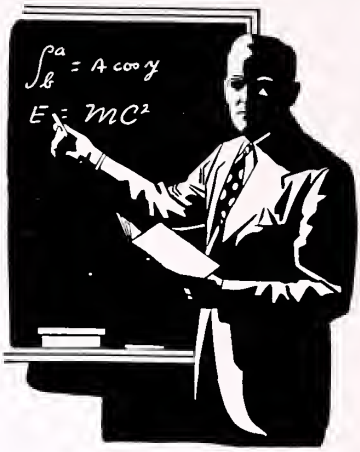

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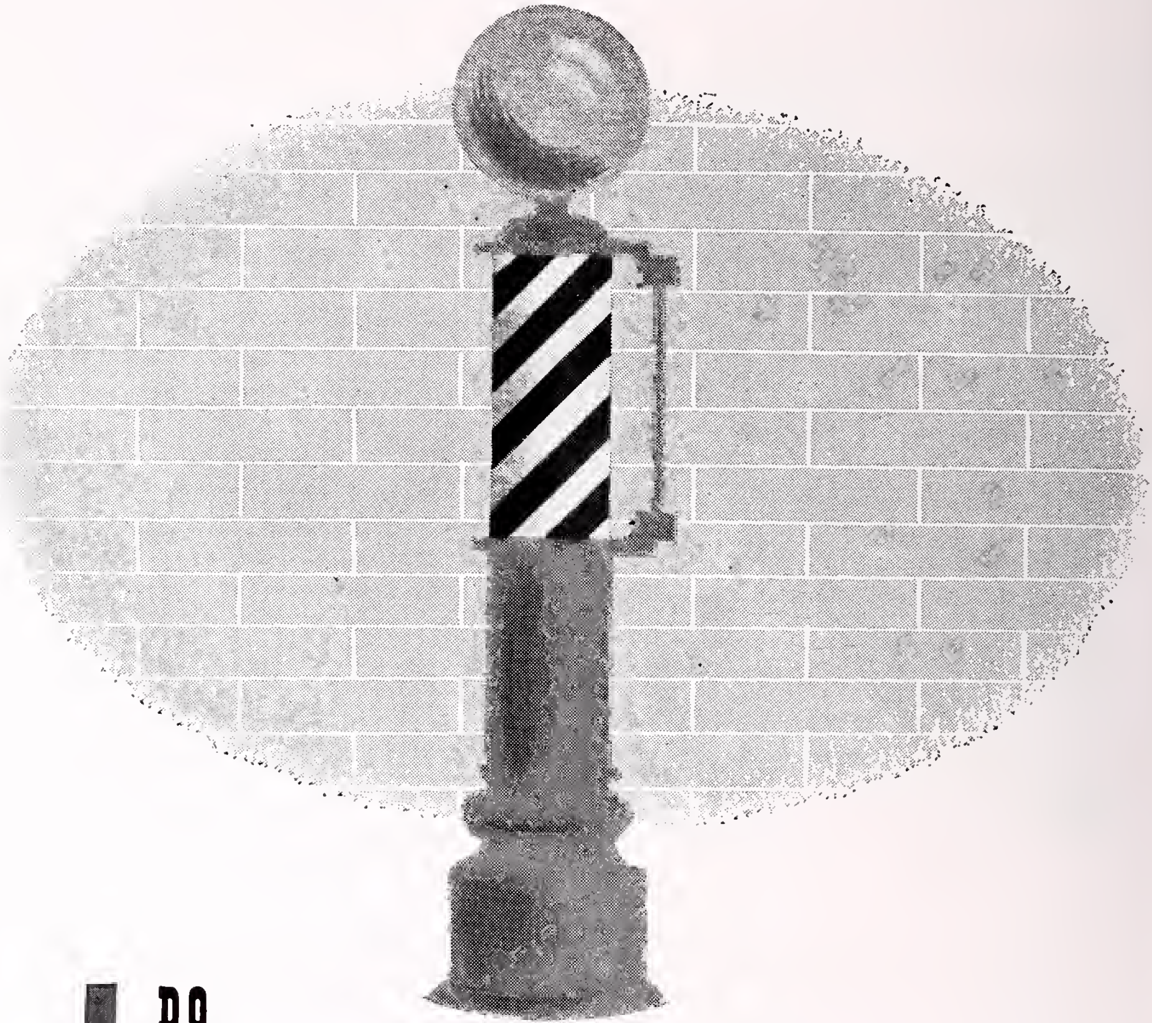

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 3

MARCH, 1947

Per Copy, 20c
Per Year, $2.00

DIABETES MELLITUS AND GALL BLADDER DISEASE

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It is estimated that 4,000,000 people in the present population will have diabetes mellitus. The disease is increasing in incidence, being in tenth place as a cause of death in the United States. Many predisposing factors to this disease are known, one of the most prominent of which is gall bladder pathology. It is known that 38% of diabetics have cholecystic disease associated with their diabetes or have had it as a predisposing cause.

The Anatomical Relationship

The anatomy of the two organs is closely linked together. The gall bladder is lodged in a fossa on the under surface of the right lobe of the liver, and extends from near the right extremity of the porta to the anterior border of the organ. It is part of the excretory apparatus of the liver and a reservoir for bile holding from 30-35 cc. The cystic duct is 4 cm. long and joins with the hepatic duct to form the common bile duct. This latter duct is 7.5 cm. long and opens into the duodenum just below its middle. At its termination it lies for a short distance along the right side of the terminal part of the pancreatic duct and joins with it in the mucous and muscular coats of the duodenum to form a common opening. Sometimes a common channel is present, the pancreatic and common bile ducts uniting to form an ampulla at a point ahead of their entrance into the duodenum. In 1901 Opie[1] discovered an impacted stone at the ampulla of Vater, and was able to force bile into the duct of Wirsung by applying pressure to the gall bladder; thus a common channel may be created. Mehnen[2] dissected at autopsy 449 specimens and found the two ducts to be joined above a common sphincter in 61%, thus permitting a reflux of bile or pancreatic juice.

The lymphatics of the lower portion of the common duct enter glands near the head of the pancreas, but they do not enter the pancreas unless disease of these organs causes adherence to each other. Barron[3] states that the islets are noticeable for their intimate relation with the lymphatics.

Acute pancreatitis is known to be quite commonly associated with gall bladder disease. In Duncan's[4] opinion diabetes following acute pancreatitis would be more commonly known if it were not for the high mortality of the latter condition. He concludes that there is no doubt that biliary tract infection predisposes to diabetes in individuals with a diabetic diathesis. According to Shumacker[5] 3 to 10% of patients surviving an attack of acute pancreatitis develop diabetes.

Stevenson[6] quotes Barron in pointing out the similarity between the degeneration which occurs in the pancreas following experimental ligation of the ducts and the blocking of the ducts by gall stones. Pancreatic stones may play a part. Haggard and Kirtley[7] divide pancreatic stones into two varieties, the first being the true pancreatic stone found in the duct and the second being the so-called false stones found in the parenchyma of the pancreas probably resulting from pancreatitis secondary to diseases of the gall bladder. However, in their series of cases of pancreatic lithiasis, gall stones were present in only 13.8%. It seemed improbable in the Banting era that simple obstruction of the pancreatic duct with stones would produce diabetes because Arnozan and Vaillard[8] ligated the pancreatic ducts, as also did Ssobolew,[9] and found that the islets were relatively intact despite a gradual atrophy and sclerosis of the rest of the organ. However, it has been shown since that the islets share to a minor degree the degeneration which takes place in the rest of the gland, and that a duct-tied gland contains less insulin than a normal gland. Loeper and Bioy[10] report the unusual case of a young man with glycosuria who found an irregular stone not shown by x-ray in his stool twenty-four hours after a crisis of pain. He had no further attacks and his urine remained sugar free thereafter. Capparelli[11] in 1883 is given credit for the first operation for the removal of pancreatic calculi. A persistent fistula and diabetes followed from which the patient died. Changes in carbohydrate metabolism are frequently associated with pancreatic lithiasis according to Jaleski,[12] and in a review Lazarus[13] finds that disturbance in carbohydrate metabolism occurs in 45% of pancreatic lithiasis.

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* From the Metabolic Service, St. Francis Hospital.

THE PHYSIOLOGICAL RELATIONSHIP

The physiology of the gall bladder and pancreas is linked by a common purpose, that is the digestion of food in the intestinal tract. Adjacent to the gall bladder is that great organ, the liver, which is closely associated with and affected by disease of the bile reservoir. Adjacent to the external secretory portion of the pancreas are the islands of carbohydrate regulation containing insulin. As pancreatitis may affect the delicate islet tissue, so also may disease of the gall bladder disturb liver function. The presence of gall stones may result in serious damage to liver function. The impairment in glucose tolerance and the lack of uniformity in glucose tolerance curves in gall bladder disease may be due to this concomitant liver damage. Soskin and Allweiss[14] state that when the liver becomes damaged by toxic agents it becomes sluggish and the diabetic type of tolerance curve results. This change in tolerance is due to the impairment of the responsiveness of the hepatic homeostatic control of the blood sugar. Decreased inhibition of glycogenolysis is then present.

It is therefore questionable in many cases of gall bladder disease whether the decreased tolerance to carbohydrate is due to hepatic or insular disease. The hepatic type in contrast to the true diabetic type of hyperglycemia may be reversible. Soskin[15] and his co-workers have been able to distinguish between these two types of decreased glucose tolerance by an intravenous glucose tolerance test. They find that the normal curve returns to the preinjection level in sixty minutes; the hepatic curve returns after sixty minutes but before one hundred twenty minutes; and the diabetic curve returns after one hundred twenty minutes. These two different types of curves draw our attention to the work of Taub[16] et al, in which they find that the hyperglycemia occurring late in life usually in obese individuals can be treated without insulin with no increase in symptoms over a long period of time. Many cases in their series show spontaneous remission of the glycosuria for no apparent cause. These facts lead them to take the stand that the large majority of individuals developing hyperglycemia after the third decade are suffering from liver damage rather than from insulin deficiency. These findings also tend to support Graham's[17] view that there are two main causes of diabetes. In one the b cells are damaged and produce very little insulin. In the other the b cells are normal but owing to the presence of an interfering substance, fail to produce enough insulin, though the capacity for production is great.

Coller and Jackson[18] describe three patients with hypoglycemia which they regard as due to liver damage arising from gall bladder disease. Following operation a return to normal dextrose tolerance was obtained. These two writers believe that long standing gall bladder disease may bring about important changes in carbohydrate metabolism, and on this basis urge early operation. Improvement following surgery is gradual rather than dramatic as when pancreatic adenomata are removed. Marble[19] quotes Ohler saying that gall bladder disease and cirrhosis of the liver are the two commonest non-diabetic diseases associated with abnormal dextrose tolerance curves.

The following conclusions are drawn by Taub, Schlaes and Rice[20]:

(a) the liver is the organ responsible for regulating the blood sugar.

(b) disturbances in liver function may cause alteration in carbohydrate regulation.

(c) Many of the patients have a history of excessive ingestion of alcohol with a poor diet.

(d) most show evidence in their blood chemistry of sub-clinical liver damage. Most of their cases of this type were treated with a high carbohydrate, high protein and low fat diet without insulin. They all showed a pronounced improvement in their diabetic symptoms.

The association of gall bladder disease and obesity leads many clinicians to think that the obesity causes the primary disturbance in metabolism. It is Sindoni's[21] statement that fair, fat and forty apply to both diseases. He calls attention to the fact that 87% of diabetics were obese at the onset of the disease. Meakins[22] thinks that obesity causes the primary disturbance in metabolism. He writes that hypercholesterolemia associated with the obesity leads to gall bladder disease, gall stones and extension of the infection into the pancreatic duct, sub-acute pancreatitis and finally diabetes. In other words there is a primary disturbance in fat metabolism.

Davidson [23] in discussing the mechanism underlying the production of gall stones agrees that the large amounts of cholesterol present in many types of gall stones might suggest that the etiology of cholelithiasis is closely connected with the metabolism of cholesterol. He draws attention to the important role which bile salts play in keeping cholesterol in solution. Any factor which adversely affects the cholesterol-bile salt ratio will facilitate precipitation. The functional integrity of the polygonal cells of the liver which manufacture the bile salts is obviously of prime importance. If hepatic function is lowered by infection or a defective diet, the bile salt manufacture may be decreased. The bile acids aid in the emulsification and absorption of fats and increase the effect of the fat splitting enzyme lipase. Teeter[24] remarks that they also serve to lower the surface tension of fats so that they lend themselves more readily to emulsification. The absence of bile from the intestine hinders the absorption of fat soluble vitamins.

Although pancreatic lipase is active in the absence of bile acids, its activity is increased three-fold in the presence of bile. Bile acids prevent the precipitation of cholesterol and fatty acids in the gall bladder by holding fatty acids in solution. Boyd[25] leans to the same view. He says that the increased prevalence of gall stones in the diabetic over the nondiabetic is the result of the metabolic disturbance in fat metabolism, that the etiology of diabetes is not related to gall bladder disease by any anatomical route, but is initiated by the imbalance in fat metabolism, the liver playing the most important part. Saying that the absorption and oxidation of fats are unimpaired in diabetes mellitus, Kolmer[26] goes on to claim that the lipemia and cholesterolemia which are often present in diabetes appear to indicate an increased demand for the metabolism of fat because of the unavailability of carbohydrate. Carbohydrate is the chief anti-ketogenic foodstuff. In Soskin's[27] view if the glycogen of the liver is depleted the fat may fill the space no longer occupied by the glycogen. Dragstedt[28] thinks that the fatty and poorly functioning liver in diabetes is due to lipocaic deficiency. He quotes Grayzel and Radwin in telling of the decrease in the size of the liver in three young diabetic children by the administration of lipocaic.

Soskin[29] and his co-workers found that damage to the liver by a toxic-agent produces diabetic dextrose tolerance curves. Biskind[30] and Schreier claim that nutritional factors, especially those of the vitamin B complex, protect the liver from the functional and structural impairment which results from a variety of toxic agents. They also claim that it has been shown that this hepatic impairment results from a secondarily-induced deficiency of the nutritional factors which are used up in the process of destroying the toxic agent. It might be deduced from their theories that the removal of the gall bladder to relieve the strain on the liver from the cholecystitis or cholelithiasis should therefore be probably considered in diabetics.

The Statistical Relationship

The statistical relationship between gall bladder disease and diabetes mellitus has been brought out especially by Rabinowitch[31] who found by using the theorem of probability of Pearl that nine times as many patients with disease of the gall bladder had diabetes as would be expected if the influencing factors were independent. In other words a common factor seems to bring them together. 80% of all cases with symptoms of cholelithiasis have hyperglycemia, though not of sufficient degree to produce glycosuria. 30 out of 136 patients with gall bladder disease have glycosuria in Berghausen's[32] studies. He advises operation for those suffering from repeated gall bladder attacks. In some few cases with repeated gall bladder drainage carbohydrate tolerance improves. At the Mayo clinic, Adams[33] says that 1 out of 47 patients with gall bladder disease has diabetes and 1 out of 8 with diabetes has gall bladder disease. All these cases were over forty years of age and the type of diabetes was mild. It was improved by operation in 20 to 25% of cases.

Wilder[34] reports 58 necropsies on diabetic patients. He finds cholelithiasis in 16 and cholecystitis in 4, or an incidence of 34.5% of gall bladder disease with diabetes. In discussing the pathology of diabetes mellitus, Warren[35] reports on 453 diabetics over thirty years of age who came to autopsy: 139 had cholelithiasis, 28 cholecystitis, and 1 carcinoma of the gall bladder. Most of the stones were of the cholesterol type. Cholesterol stones are 2.5 times as common in women as in men and 80% are in married women with children. Warren concludes that cholecystectomy should be performed on all patients with gall bladder disease and diabetes. Whether the gall stones of the silent type as described by Robertson[36] should be removed is another question. The average age at diagnosis of cholelithiasis in 189 cases was 47.7 years, and of the diabetes in 199 cases was 51.3 years. Bailey[37] reports these figures, and claims that they show a definite but not marked precedence of gall stones. A case of cholecystitis, cholelithiasis and jaundice whose daily requirement was from 600-1000 units of insulin before operation, has been reported by Joslin.[38] After cholecystectomy the insulin requirement dropped to 18 units per diem in 3 months and 9 months later the patient was feeling quite well without insulin. Jordan[39] makes the following conclusion regarding gall bladder disease: "The incidence of gall bladder disease discovered during life in diabetes is only a fraction of the incidence at post mortem examination."

THE IMPORTANCE OF THE POST-PRANDIAL BLOOD SUGAR

In two cases in our clinic with normal fasting blood sugars and gall bladder disease, Exton-Rose glucose tolerance tests were abnormal showing evidence of decreased carbohydrate tolerance. However, since the tolerance test puts an abnormal strain upon the homeostatic mechanism, it might be more practical and certainly more natural to administer a meal tolerance test as suggested by Sindoni.[40] He states that blood sugar levels of a normal person after an average breakfast reveal little difference as compared with the fasting blood sugar, but the blood levels of the diabetic after the test meal become markedly elevated. He says that the fasting blood sugar is not a complete index of the diabetic's metabolic power for carbohydrate, and may often be misleading when it is the sole laboratory guide of the diabetic's progress. It may also result in a missed diagnosis. In his conclusion he says that one to three hours, generally two hours, after an adequate meal is the interval of choice for determining the blood sugar.

SUMMARY

A review is made of the literature concerning the association of gall bladder disease and diabetes mellitus. An attempt is made to correlate the anatomical, physiological and statistical relationships of each disease. The importance of post-prandial blood sugar in the diagnosis of decreased carbohydrate tolerance in gall bladder disease is emphasized.

CONCLUSIONS

1. Gall bladder disease and diabetes mellitus are closely associated with each other in the human body. 38% of diabetics have gall bladder disease. Nine times as many patients with disease of the gall bladder have diabetes as would be found if the influencing factors were independent.
2. The diabetes or perhaps better stated decreased carbohydrate tolerance may not be a true insular one. It may be due to liver disturbance from the toxic effect of the cholecystic disease, that is to derangement of the homeostatic control of the blood sugar.
3. To improve the function of the liver in these cases may therefore be the aim of the clinician. This may be done by high carbohydrate, high protein diet, correction of deficiency in essential food factors, reduction in weight if obese and perhaps removal of the bladder.
4. All diabetics should have gall bladder study.
5. Post-prandial blood sugar should be routinely used in all gall bladder disease.

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MESENTERIC FIBROSARCOMA*

Report of a Case

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Fibrosarcoma of the mesentery may be considered a unique surgical lesion because of its exceedingly uncommon occurrence. The clinical picture it presents, the surgical difficulty attending its removal, and the pathologic identification are of no less interest than its source and development. The etiological factors concerned in the production of mesenteric tumors remain largely conjectural and unquestionably a certain number of them may be explained on the basis of congenital defect in the development of the mesentery. In its advanced stage, the origin of the tumor is admittedly difficult to determine; whether it arises from the leaves of the mesentery or from the retroperitoneal space. The most important thing of course, is to determine malignancy. The following case report with operative and necropsy findings, illustrates this type of tumor.

Case Report

H. H., male, age 66, white, married, was admitted to St. Francis Hospital on February 20, 1947, with chief complaints of abdominal mass, pain in the left lower quadrant, and loss of weight. For the last three years the patient had been having attacks of abdominal pain, gnawing in character and usually localized over the left iliac and hypogastric regions. When severe, it radiated to the back and to the thighs. The pain was worse after he ate a heavy meal, drank cold water, and when in sitting and lying positions. The pain seemed relieved when he walked about or passed gas by rectum. During the past three weeks, the pains become more frequent and intense in character. There was no history of anorexia, nausea or vomiting; no diarrhea, acholic stools, or jaundice. There was an increasing constipation and the history that he was treated by a gastroenterologist about two years ago for colitis and constipation. At that time, he weighed 168 lbs.; and just before admission, 130 lbs. He kept on working as assistant fireman until a week before he consulted one of us because he felt a tender mass over the left lower abdomen.

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Physical Examination. A fairly well developed but poorly nourished male patient with no signs of marked enemia. The heart and lungs were negative. Blood pressure, 124/76. The abdomen was bulging and over the right hypochondrium and extending across the epigastrium was a mass with nodular surface, roughed edged, which moved on respiration. Over the left iliac region and extending obliquely downwards to the middle of the hypogastrium, was a large sausage-shaped mass, smooth surfaced and tender. The superficial abdominal vessels were predominant, tortuous, and engorged. Fluctuation wave and shifting area of dullness were present.

The working diagnosis was an intra-abdominal neoplasm in the vicinity of the sigmoid colon or an inflammatory diverticular tumor.

Laboratory Data on Admission. Hemoglobin, 64%; red cell count, 3,390,000; leukocyte count, 7,800 with 76% poly's, 20% lymphocytes, 2% eosinophiles, 2% monocytes. Urine analysis was essentially normal. Serum protein, 6.8 gms. per 100 cc.; blood sugar, 70 mgms. Urea nitrogen, 20 mgms. Sedimentation time, 40 minutes. Sedimentation index, 35 minutes. Blood Kolmer and Kahn were negative.

X-Ray Findings:* Barium enema was done before admission to the hospital and the report was as follows: "The rectum fills well. There is a point of obstruction in the lower sigmoid colon beyond which the barium could only be forced through slowly. This area of blockage is just beneath the large tender mass in the lower left quadrant. The lumen could not be visualized in this area. Very little barium could be forced beyond the obstruction. Serial films were taken and all showed non-filling of the same part of the lower sigmoid colon for a length of 5 cm. There is no sharp outline of the unfilled area but the mucosal pattern can be demonstrated in one or two views. Film taken after elimination shows complete emptying of the lower bowel. The mucosal membrane is intact and appears normal. There are no evidences of diverticulosis. Diagnosis: There is a constant area of non-filling in the midsigmoid region measuring 5 cm. in length with suggestion of mucosal pattern which did not give the appearance of a colon lesion, but more the appearance of an extrinsic lesion causing a pressure defect on the colon."

Operation: Exploratory laparotomy was deemed indicated and carried out on February 24, 1947, under continuous spinal anesthesia. The abdomen was opened through left lower transrectus incision and a large irregular solid tumor mass was found occupying the entire pelvis and left lower abdomen. The tumor appeared lobulated with a conglomeration of nodules varying in size from 4 to 10 cm. in diameter and covered by a smooth glistening membrane which was highly vascular. The nodules were found to be made up of pale yellow and grayish friable material. The tumor mass was densely adherent to the sigmoid and apparently causing obstruction, as the upper sigmoid was partially collapsed. Because of the size of the tumor it was impossible to determine the origin except that it was attached to the mesentery of the sigmoid. There was no evidence of peritoneal implants nor metastasis involving mesenteric lymph nodes. The liver was enlarged and filled with metastatic nodules varying in size from 1 to 5 cm. in diameter. The pelvic tumor was deemed unresectable but an attempt was made to remove by enucleation the greater portion of the mass away from the bowel for the purpose of biopsy. Considerable bleeding was encountered which could not be controlled by suture ligature on account of the friable tissue. Concavity of the remaining tumor mass was firmly packed with voluminous quantity of plain gauze, using it as a drain and isolating this area from the rest of the bowel with thin rubber tissue dam. A palliative transverse colostomy was carried out to relieve obstruction.

Postoperative Course: The patient stood the operation well and seemed better the following day. The abdomen was soft and, except for slight postoperative pain, the patient appeared comfortable. On the third day, he developed definite signs of ileus which did not yield satisfactorily to Wagensteen decompression. The temperature started to rise and the abdomen became distended. On the sixth postoperative day, he developed rales in the chest with rapidly forming pulmonary edema. He became comatose and finally expired on the eighth postoperative day.

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* By Dr. Peter Olivere, Associate in Radiology, St. Francis Hospital.

Biopsy Report:* "Gross specimen consisted of 250 grams soft, pale yellow-gray tissue. Microscopic: irregularly interlacing strands of small elongated cells strongly resembling fibroblasts. The nuclei of these cells vary in size and shape with many mitotic figures. The cytoplasm stains bright red. The stroma consists of thin-walled blood vessels. Diagnosis: Mesenteric fibrosarcoma."

Autopsy Findings:* "Peritoneal cavity: There was no evidence of infection. A large irregular tumor mass fills the pelvis and the liver projects well below costal margin due to enlargement with tumor masses. The other viscera are normally arranged. The liver was twice normal size due to many discreet round tumor nodules throughout. This ranged in size from minute masses to 5 cm. in diameter and are uniformly opaque-gray in color and moderately firm and resilient in consistency. The gall bladder and stomach are normal. The upper two-thirds of the small intestine is greatly distended with fluid material which is interpreted as paralytic ileus. The transverse colostomy is in a satisfactory condition. A lobulated gray tumor mass like the tumor nodules in the liver and like the surgical specimen removed a few days before, occupies a large portion of the pelvic cavity but is easily delivered from the pelvis. It is attached to the mesentery of the sigmoid from which it apparently arose. The sigmoid is closely adherent to the tumor mass, but there is no evidence that the intestine is invaded by the tumor. One mesenteric lymph node is calcified and the other nodes examined are moderately edematous. All other organs are essentially normal."

Histopathologic Studies:* "The tumor masses in the liver and in the pelvis are identical with the surgical specimen submitted earlier. The lung alveoli are filled with edema fluid with numerous foci of polymorphonuclear exudate extending from the bronchial branches to the surrounding alveoli."

Comments

Fibrosarcoma or spindle cell sarcoma is a tumor closely resembling sarcoma in gross appearance but differing from the latter in its great rapidity of growth, its greater size, and its tendency to invade neighboring tissues. This type of neoplasm is not sharply demarcated but fades imperceptibly into its surroundings as has been clearly demonstrated in the above case. It is much more cellular than a fibroma and usually forms comparatively little collagenous tissue; however, the invasive tendency is less marked and it does not metastasise as early as the round-cell variety.

Discussion

The absence of peritoneal implants and metastasis to the mesenteric lymph nodes indicates spread of embolic cells to the liver through the portal circulation, with no evidences of further involvement elsewhere in the lungs or other viscera. The extent and invasive character of the tumor mass was so great that no delineating mark separates the tumor from the bowel. It was interesting to note that outside the pressure effect on the sigmoid there were no evidences of invasion through the wall of the bowel. From the clinical standpoint, the appearance of the patient belied the extent of the rapidly growing sarcoma, with exception of loss of weight. Cachexia and pronounced anemia was absent. The patient was not disabled for any length of time except a week before admission to the hospital, during which period his complaints were explained by obstructive and pressure symptoms in the lower bowel.

Summary

A case of mesenteric fibrosarcoma is presented in its clinical, operative, and pathological aspects. The primary source of the lesion was not easily determined because of the size of the tumor and the advanced stage of malignancy. The diagnosis is not so difficult if, in the presence of an abdominal mass extrinsic to the gastro-intestinal tract, the possibility of mesenteric tumor is borne in mind. Malignancy of this type is unresectable and clearly indicates unfavorable outlook, with or without operative procedure.

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* By Dr. Douglas M. Gay, Pathologist, St. Francis Hospital.

METASTATIC CARCINOMA of the LUNG* SIMULATING HEART FAILURE

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Wilmington, Del.

We present a case of metastatic carcinoma of the lung which masqueraded as a heart failure case because of its rarity and its misleading presenting signs and symptoms.

Carcinoma may reach the lung from the breast. It usually uses the lymphatic system, although at times it makes use of the blood stream. When it spreads by the lymphatic system the peribronchial lymph glands may contain masses of tumor cells. Sometimes no tumors are found in the substance of the lung, but great numbers of minute nodules may be lodged subpleurally.

In attempting to trace the spread of the cells from the breast to distant places, one should always keep in mind the principles of circuitous or retrograde metastasis. That is to say, cells, fluid, and bacteria, once the lymph channels of a part have become diseased, may have to resort to anastomotic channels and detours to arrive at their destination. By keeping this principle in mind, many of the features of metastases become less mysterious.

Case History

M. G., married, white, female, 75 years old, admitted to St. Francis Hospital on December 21, 1946, with the chief complaints of palpitation, dyspnea, and chest pains. For about one year before admission the patient had been having recurrent attacks of palpitation, dyspnea, chest pains, and occasionally orthopnea, especially after some exertion. She had also noticed swelling of the feet at night.

Past Diseases. About 1½ years before admission, she had been operated upon for carcinoma of the left breast; this was corroborated by histopathological studies of the removed organ.

Physical examination revealed a fairly well developed and fairly well nourished, dyspnea patient requiring a back rest. Other pertinent findings were: left artificial eye; left mastectomy scar; a firm mass about 5 cm. in diameter in the right axilla. Except for occasional mucous rales at the bases, the lungs were clear and resonant all over; the heart was enlarged downwards and to the left by percussion, no thrill was appreciated, heart sounds were regular, rhythmical, and fairly strong, while a soft blowing systolic murmur was best heard at the mitral area and was transmitted to the axilla and to the precordium. The abdomen was symmetrically bulging, fluctuating wave and shifting area of dullness were present, but the liver and spleen were not palpable; no abdominal masses, rigidity or tenderness. The lower extremities revealed pitting on pressure. The blood pressure was 180/110.

With the above history and findings, a working diagnosis of heart failure, secondary to chronic valvulitis, mitral insufficiency, probably rheumatic in the origin, was entertained.

Course in the Wards. Afebrile most of the time, with terminal rise of temperature. Breathing improved up to January 4, 1947, when the dyspnea again set in and gradually grew worse in spite of oxygen, respiratory stimulants and back rest. However, the lungs showed no rales and there was no change in the heart findings except for weakening of the heart sounds. On January 4 she also developed a puffy left lower eyelid, which persisted until she died. Water balance—output always less than imput. She died on January 14, 1947.

Laboratory Studies. Dec. 23, RBC 4,530,000: 79% hemoglobin (Sahli); WBC 11,600, with 70% polys and 30% lymphocytes.

Dec. 24, Blood Wassermann negative; blood urea nitrogen, 18 mg.%; blood sugar, 135 mg.%.

Dec. 26, RBC 4,580,000, with 79% hemoglobin (Sahli); WBC 9,250 with 79% polys, 23% lymphocytes, 2% eosinophiles and 1% basophiles.

Dec. 30, Exton-Rose Test—Fasting blood sugar 95; 1 hour later, 130 mg.%; 2 hours later, 145 mg.%; and 3 hours later, 150 mg.%.

X-ray Studies. Dec. 22, 1946. Flat plate of the chest shows no enlargement of the cardiac shadow. There is a flocculent infiltration involving the lung fields on both sides; this extends into the lung parenchyma. Some free fluid is seen at the right base extending up the lateral chest wall. This probably represents passive congestion, although some superimposed infection should be considered.

Dec. 27, 1946: Fluroscopic examination of the chest showed a broadening of the mediastinum. This was due, however, to a unfolding of the aortic arch since in the oblique views the arch was not broadened. The diaphragms were movable but the excursion was limited. There is still some opacity at the right base. No abnormal pulsations were noted. The cardio-thoracic ratio is 14-25½ which would appear to be greater than normal. The film, however, was not made on complete inspiration and the heart is transverse in type.

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Electro-cardiographic Examination on Dec. 23, 1946, revealed a definitely abnormal tracing indicative of severe myocardial damage. The tracing is typical of extreme left ventricular strain and in addition the absence of the R spikes in the chest leads suggests definite coronary disease. There is no evidence of an acute myocardial infarction. First degree AV block is present. There is one extrasystle in lead 1, probably nodal in origin.

Medications. Purodigin, thiamin hydrochloride, elixir benerva, caffeine sodium benzoate, oxygen, nembutal, phenobarbital, demerol, salyrgan, mercupurine, agarol, mineral oil, agarol with phenolphthalein, paregoric, tincture belladonna, ammonia chloride, chloral hydrate, and low sodium-acid ash diet.

Autopsy Findings, as reported by Douglas M. Gay, M. D.—

Peritoneal cavity. The surfaces are studded with innumerable minute firm gray nodules of tumor averaging 0.5 cm. in diameter. There are surprisingly few adhesions and no free fluid. The organs are normally arranged.

Pleural Cavities. The parietal pleura on the left is smooth and glistening, but the visceral pleura is studded with minute tumore nodules. The right pleural surfaces are extensively involved in cancer with adherence of the entire lung surface to the chest wall. The mediastinum appears to be shifted toward the right due to fibrosis accompanying the tumor.

Lungs. The left lung contains numerous subpleural small tumor masses, but no metastases are grossly visible within the lung substance. The tissue is soft and crepitant and on section reveals a normal mottled pale red and black surface. The right lung is much decreased in size due to extensive involvement of all surfaces by cancer and dense fibrous tissue. The lung is air-containing, and shows no other cancer than that invading from the pleural surfaces. The tracheo-bronchial nodes on this side are enlarged up to 2 cm. in diameter.

Pericardial cavity. The pericardial wall contains several firm gray tumor nodules. There are no adhesions or excess of free fluid.

Heart: Moderately enlarged due to hypertrophy of the left ventricle. The epicardium is thin and transparent. The myocardium is homogeneous dull red in color, firm in consistency and moderately thickened in the left ventricle. There is no evidence of infarction or fibrosis. The endocardium is thin and transparent except over the aortic valve where the valve ring is calcified. The coronary arteries contain numerous deposits of calcium and narrowing of the lumen, but there is no evidence of occlusion. The tricuspid, pulmonary and mitral valves are normal. The calcification at the base of the aortic valve does not extend to the valve edge, and the valve is judged to have been competent.

Gastro-intestinal tract. The surfaces are extensively covered with tumor masses, but there is no evidence of obstruction and the tract appears otherwise grossly normal throughout.

Lymph nodes: Axillary nodes on the right are represented by a mass of dense, firm gray tumor. Parasternal nodes on the right are involved in tumor. Tracheo-bronchia nodules on the right are also involved.

Other organs, essentially normal.

Histopathological Studies — Breast: Section from right breast is typical of breast cancer. The tumor cells are small, but vary in size and shape. There are occasional mitotic figures. The tumor cells are arranged in small strands and imperfect glands are found among a dense connective tissue stroma. Strands of tumor extend into the surrounding fat tissue and are also present in the lymphatics.

Lung and Pleura: Structure is identical with the breast cancer. The tumor extends into the underlying lung tissue and is also involving the peribronchial lymphatics.

Peritoneum: Section shows masses of cancer similar to that in the breast although there is much less stroma.

Conclusion

A case is cited of metastatic carcinoma of the right lung, secondary to carcinoma of the right breast, masquerading as heart failure.

SUCCESSFUL IMMUNIZATION PROCEDURES

George J. Boines, M. D.,*
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Preventive medicine is of great importance when practiced early and systematically. Morbidity and mortality from diphtheria, whooping cough, scarlet fever, measles, and typhoid are still too prevalent in Delaware, especially in Wilmington. It is up to the medical profession and the public health agencies to assume the leadership in educating parents and guardians of children to see that every infant and child receives the full protection of all available methods of immunization.

The incidence of diphtheria, whooping cough, scarlet fever, and typhoid has been rising in the past several years. The spread of these communicable diseases cannot be effectively controlled by quarantine methods now in general use. The morbidity and mortality from these diseases can be successfully reduced by prompt action in reporting cases, testing the contacts, and employing thorough and systematic methods of active immunization.

To carry out the many tests, to interpret them and to suggest immunization procedures, it is obvious that all the necessary information must be in the hands of an experienced group and that systematic procedures must be developed so that the work can be carried out with speed and accuracy. We explored the possibility of the City Board of Health undertaking this work in an immunization clinic to which patients may be referred for preventive care, but this was not found to be feasible.

It was decided to start immunization clinics, in cooperation with the Wilmington City Board of Health, in the Wilmington General Hospital and the Walnut Street Y. M. C. A. Through these clinics immunization will be made available to the indigent part of the population. These clinics will operate on the same basis as any other hospital clinic. The Health Department has agreed to supply all of the immunization materials, and nurses to assist the physician and keep the records. The nurses will visit all reported communicable disease patients and request the testing of all contacts, immunizing those found susceptible. This procedure should eliminate many contact infections provided physician cooperation can be obtained.

Procedure of Skin Testing

In order to facilitate the method of testing, the following procedure is under trial in the immunization clinic. The left forearm is used for the Dick test, near the elbow, and the Schick test is placed near the wrist.

The right upper forearm is used for the tuberculin test and the lower right forearm for the whooping cough skin test. The tuberculin and the whooping cough skin test give similar reactions in that they both depend on induration rather than redness for their interpretation. If there is no induration at all, they are both negative. The patient returns for the reading of the tests in 24 and 48 hours. Immunization is started as soon as susceptibility is evident.

The purpose of the tuberculin test is that of case finding in children, as well as among hospital personnel. All contacts are tested every 6 months if negative. All positive reactors are x-rayed.

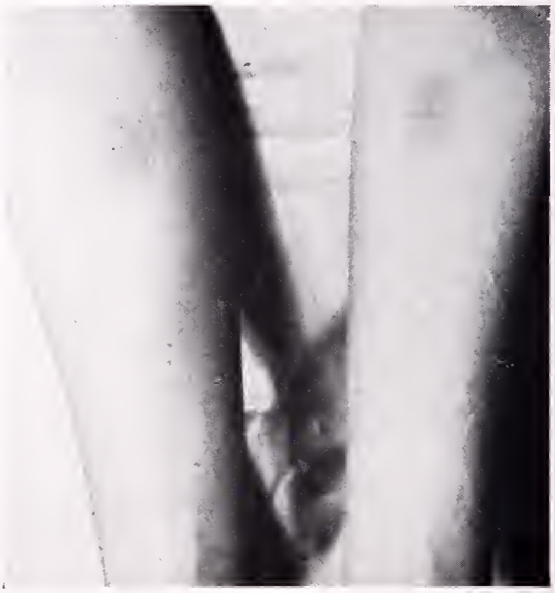

FIGURE I

Left forearm shows a positive Dick above and a negative Schick below (point of needle shows).
Right forearm shows positive tuberculin test above and negative Schick control below. (Done on all nurses when the Schick is read in 24 hours).

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Tuberculosis

Tuberculin Test:

Injection should be made intracutaneously on the flexor surface of the right forearm, about two inches below the elbow, the site of injection being first cleansed with 95% alcohol or acetone. If the injection is made correctly a small white bleb will rise over the needle point. Care should be taken to avoid injecting tuberculin subcutaneously. If this occurs no local reaction will be seen, but a general febrile reaction may result.

In order to avoid severe reactions, the tuberculin test is carried out with doses of two strengths—First and Second Test Strengths.

In children with visible cervical nodes, ulcerations, or discharging sinuses, and others who may be highly sensitive to tuberculin, the initial dose should be one-tenth of the First Strength Dose. If no reaction occurs, the First Test Strength may then be used.

First Test Strength: Inject intradermally 0.1 cc. from the first strength vial containing 0.00002 mg. of Tuberculin P. P. D. Readings should be taken after forty-eight hours.

Second Test Strength: If no reaction occurs following the first test, retest by injecting 0.1 cc. of the Second Test Strength. This dose contains 0.005 mg. of Tuberculin P. P. D., or 250 times the first strength dose. Read the reaction in forty-eight hours.

Caution: Since solutions containing small amounts of Tuberculin P. P. D. deteriorate on standing, only freshly prepared solutions should be used. If dilutions are stored at refrigerator temperatures when not in actual use, deterioration is less rapid. However, such solutions should not be used after storage for longer than three days.

Interpretations of Tuberculin Reaction: Reactions should be read forty-eight hours after injections. Positive reactions may be classed arbitrarily as follows:

One plus (+) —Reactions more than 5 mm. and not exceeding 10 mm. in diameter, showing some redness and definite edema.

Two plus (++) —Reactions more than 10 mm. but not exceeding 20 mm. in diameter, with an area of redness and edema.

Three plus (+++) —Reactions exceeding 20 mm. in diameter with marked edema and redness.

Four plus (++++)—Reactions consisting of marked redness, edema, and an area of necrosis.

If there is no edema and only slight redness at the site of injection, the test is recorded as negative. In interpreting the tuberculin reaction, it must be remembered that redness is of less significance than edema. All positive reactors are fluoroscoped, or if suspicious, are x-rayed. All negative reactors are retested at 6 month intervals if possible; if not, at yearly intervals, and when found positive are x-rayed. A negative reactor who later becomes positive is watched carefully because the incidence of tuberculosis is much higher in this group within one year from the time of contact.

Diphtheria

Schick Test:

Each individual is tested by an intradermal injection of 0.1 cc. of diphtheria toxin on the left lower forearm. Care must be taken in each case to produce an intradermal wheal. The reading is made at 72 hours and the reaction recorded in centimeters in its longest diameter. All reactions of one centimeter and over are read as positive. All children with positive reactions receive a course of three monthly intramuscular injections of one cc. each of alum precipitated diphtheria toxoid. If over the age of twelve, in order to avoid reactions, fluid toxoid (Ramon) is used, giving 1 cc. per month for three months intramuscularly. Diphtheria, pertussis, tetanus toxoid (alum precipitated) may also be given, using a 1 cc. dose each month for three months. The Schick test is repeated 6 months after the last injection and those found positive are given additional injections.

Since the introduction of diphtheria toxoid for children, the use of toxin antitoxin has been put aside by many physicians. It has been found, however, that many adults do not tolerate toxoid and very painful local and general reactions result. It is now recommended that the use of toxoid be limited to children up to 12 years of age, and that the diphtheria toxin antitoxin be used for all individuals over that age. Since the antitoxin used in the combination is prepared from sheep's blood, it reduces to a minimum the chance of subsequent inconvenience from reactions in case serums have to be given. This useful preparation has been discontinued by most manufacturers; for that reason, the fluid toxoid (Ramon) is recommended in its place.

Due to hypersensitiveness to proteins, there may be a redness and swelling at the site of injection and a general reaction with malaise and slight increase in temperature. These symptoms usually subside in 24 to 48 hours. Ten grains of aspirin and one capsule of 3/8 grain of ephedrine sulfate will usually alleviate any uncomfortable symptoms.

WHOOPING COUGH

Factors Influencing Skin Test Reactions: The immunologic diagnostic test is manifested by two types of dermal allergy. The first depends upon the presence of circulating antibodies and results in a response within fifteen minutes after inoculation of the antigen, and usually disappears within one hour. The other type is caused by true tissue allergy and is always of a delayed nature with the response following a number of hours after injection of the antigen. Maximum intensity is reached after twenty-four hours and is manifested by induration, pain, and redness.

Principle: It is assumed that if antibodies are present in the blood stream and thereby presumably in the tissues, the injected antigen will incite an inflammatory reaction indicating the presence of protective substances.

Procedures and Interpretation of Skin Tests: One-tenth of one cc. of the agglutinogen is injected intradermally. Readings of the skin reaction are made thirty minutes and twenty-four hours after injection.

As has been indicated, two types of dermal response are anticipated: an immediate or wheal-like reaction and a delayed or tuberculin-like reaction. Induration is the determinant factor in a positive immune reaction to distinguish it from a negative result. Erythema alone does not merit consideration in the interpretation.

The following procedure for grading reactions is suggested:

1. Strongly positive—immune: an indurated area, with or without erythema, 20 mm. or more in diameter at either one-half or twenty-four hours or both.
2. Weakly positive—immune: an indurated area, with or without erythema, not exceeding 20 mm. in diameter at either one-half or twenty-four hours, but at least 10 mm. in diameter at either or both.
3. Negative—susceptible: no induration at either one-half or twenty-four hours beyond an area of 10 mm. diameter.

All reactions will fade quickly, usually disappearing in thirty-six hours or sooner. The pertussis skin test has been found reliable in determining the immunity index to whooping cough.

Immunization is employed as follows: For children from two to six months of age concentrated 20,000 million organism whooping cough vaccine is used; 0.5 cc. the first week, 1 cc. the second week, 1.5 cc. the third week, and 2 cc. the fourth week, hypodermically.

For children over six months of age, the vaccine is given 1 cc. the first week, 2 cc. the second week, and 3 cc. the third week, hypodermically.

Alum precipitated whooping cough toxoid may be used, giving 1 cc. per month for three months intramuscularly.

In order to avoid multiple injections with many trips to the office, the alum precipitated triple toxoid (diphtheria, pertussis and tetanus) has become very popular and effective, given 1 cc. per month for three months intramuscularly. Six months after the last injection a skin test is done and if negative susceptible, a booster dose of 1 cc. is given. A booster dose may also be given on exposure to whooping cough or at two and six years of age if the skin test is weakly positive or negative susceptible.

SCARLET FEVER

DICK TEST:

The Dick test is done on the left upper forearm using 0.1 cc. of the scarlet fever toxin material. Before doing the test several precautions must be taken to insure uniform reactions. The arm is carefully washed with sterile sponges and sterile solutions as follows: soap, alcohol, water and dry sponge; the alcohol is washed off by the sterile water to avoid any reaction of the alcohol with the toxin.

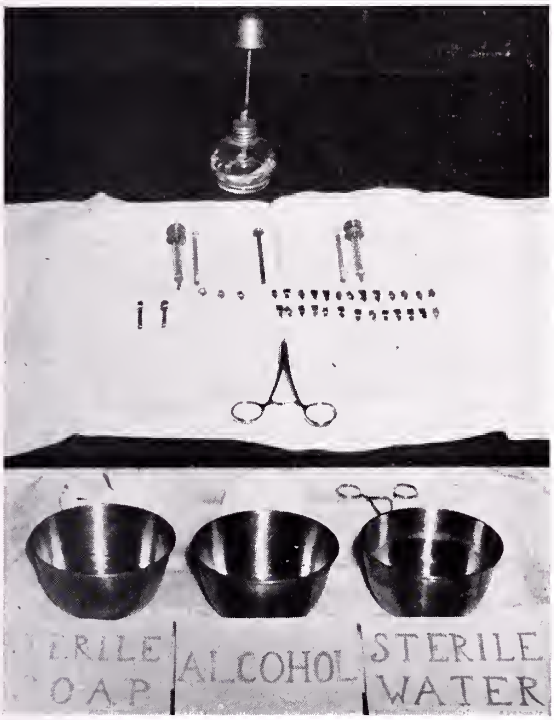

FIGURE II

Sterile soap, alcohol, and water used in preparing the forearm for the Dick test. Note hemostat used to pick up sterile sponges used in scrubbing the forearm. Seperate intradermal needles may be used for each patient. If the platinum (left upper) needles are used, the flame is employed to sterilize the tip of the needle before each patient.

All syringes and needles are autoclaved in order to avoid the presence of water. The toxin vial is wiped with alcohol and dried with sterile sponge, then punctured with a sterile hypodermic needle when a large number of patients is tested at one time. Several syringes are filled at the same time so as to avoid multiple puncture of the vial and possible contamination. Regular toxin syringes are used.

Small special intradermal 1/4 inch 26 or 27 gauge needles are employed. The sterilized syringe is rinsed out with a small amount of the skin test solution before filling it for use and each needle is rinsed out by ejecting 0.1 cc. of the skin test solution before making the test injection. Care is taken to produce a good sized wheal in the skin regardless of the amount used according to the graduations of the syringe since at times some air leaks out of the needle or some air might be present in the syringe.

The tests are read between 20 and 24 hours and the reactions are measured in centimeters in their longest diameters. The present immunization doses are graduated as follows:

1st dose	650 skin test doses
2nd dose	2,500 skin test doses
3rd dose	10,000 skin test doses
4th dose	30,000 skin test doses
5th dose	100,000 skin test doses to 120,000

The intradermal method of immunization is used by employing 0.1 cc. of each of the five standard doses, that is 0.1 cc. of the first dose is injected intradermally on the outer surface of the arm; this is followed by 0.1 cc. of the second, third, fourth and fifth doses. If a severe reaction should occur in any individual, then one-half of the following dose is given at the next injection and this is followed by the next regular dose. The advantage of the intradermal method is the reactions are not at all severe and only an occasional individual complains of a sore arm or a slight elevation of temperature. Two weeks after the last immunization dose another Dick test is done, using 0.2 cc. on the left forearm. If this is positive, 0.1 cc. of the fifth dose is given and a retest is done again after two weeks. The outer arm is used for the immunization because the forearm is saved for the Dick test reaction. Immunization renders the skin immune locally and this may result in a negative Dick test due to local skin immunity when the patient may be actually susceptible.

Tetanus

For active immunization in children, use tetanus toxoid, 1 cc. per month for three months intramuscularly. The triple toxoid for diphtheria, tetanus and pertussis may be used if immunization for all three conditions is needed.

In the absence of adequate previous immunization with tetanus toxoid reenforced by another injection of toxoid at the time of injury, a person who has been wounded in such a way that there is danger from tetanus should receive a subcutaneous injection of tetanus antitoxin, 1,500 units, on the day of the injury.

A larger dose or a second injection within ten days may be desirable in certain cases of extensive injuries or when compound fractures are reduced.

Smallpox Vaccine

Smallpox vaccine is recommended at one year of age, seven years of age, and on exposure. Ether or acetone should be used to cleanse the skin, as alcohol may destroy the virus. The vaccine must be kept in the ice compartment of the refrigerator at all times. The multiple pressure method is used and no shield or bandage is applied; make the puncture area small (1/8") and as superficial as possible; it is not advisable to draw blood.

Typhoid-Paratyphoid A & B

Typhoid-paratyphoid vaccine is given subcutaneously, 0.5 cc. the first week, 1.0 cc. the second week, and 1.0 cc. the third week; or 0.1 cc. the first week, 0.2 cc. the second week, and 0.3 cc. the third week intradermally in the deltoid area. The intradermal method diminishes the reaction and is more effective in antibody production. A booster dose of 1.0 cc. or 0.2 cc. should be given every year or re-immunization may be done on exposure.

Yellow Fever

Yellow fever immunity is successfully conferred by giving a single dose of 1 cc. hypodermically.

Rocky Mountain Spotted Fever

Rocky Mountain spotted fever vaccine is used, giving 2 cc. hypodermically and repeating the same dose in two weeks. One dose of 2 cc. should be given every following year as a booster dose.

Influenza

Influenza A and B vaccine is used giving 1 cc. hypodermically once. This lasts for one year. Allergy to egg albumen is a possible reason for allergic reaction since the chick embryo is used in the production of the vaccine.

Measles

No active immunity. Passive immunity is produced with immune globulin by giving 4 to 6 cc. intramuscularly to modify the disease when the symptoms have appeared and 6 to 10 cc. intramuscularly to prevent the disease if given within eight days of exposure.

Cholera, plague and typhus may also be prevented by immunization.

BOOK REVIEWS

An Integrated Practice of Medicine—A Complete General Practice of Medicine from Differential Diagnosis by Presenting Symptoms to Specific Management of the Patient. By Harold Thomas Hyman, M. D., Volumes I, II, III, and IV, and Index. Pp. 4131, with 1184 illustrations, 305 in color. 319 Differential Diagnostic Tables. Cloth. Price: $50.00 per set. Philadelphia: W. B. Saunders Company, 1947.

This monumental work represents a new technique in medical literature. The 319 differential diagnostic tables, each listing the chief causes of a given symptom and then cross-referring the reader to the appropriate text, without duplication, leads to an "integration" of diagnosis and treatment quickly and accurately. The text is thoroughly up to date and the style makes reading easy. Special attention is paid to the asymptomatic or early stages of a condition.

The illustrations are well chosen and of good teaching value; the abundant color plates are superb. The key to the whole work is the Index and Signs and Symptoms volume.

The work is a complete general practice of medicine directed especially at the general practitioners of medicine. They—and the rest of us—can acquire this extensive work (it took five years for Hyman and his eight associates to prepare it) in full confidence that they will get their money's worth, and then some.

The Human Ear in Anatomical Transparencies. By Stephen L. Polyak, M. D., Professor of Anatomy, University of Chicago; Delbert K. Judd, M. D., Assistant Professor of Otolaryngology, University of Chicago; and Gladys McHugh, Medical Illustrator, University of Chicago. Pp. 136, with 83 figures, mostly in color. Fabricoid. Price, $10.50. New York: T. H. McKenna, Incorporated, 1946.

This is a unique presentation of the anatomical features of the auditory apparatus and of the organs of speech in the form of successive layers of transparencies which give the effect of pictorial dissections, with a lucid view of the relations of the various structures. Publication of the book was sponsored by the Sonotone Corporation as a contribution to a field in which they have long been interested.

This book should prove a valuable addition to medical literature because of the clarity and completeness with which the subject matter is presented and the beauty and excellence of the illustrations. The book concludes with an excellent bibliography.

Trans-Vision Anatomy of Head Structures. By Alfred Feinberg, Columbia University. Pp. 17, with 11 figures in color. Board. Price, $1.00. Jersey City: Wernet Dental Mfg. Co., 1946.

This work is similar to the one above, except there is no text. The transparencies here too are excellent. Since it concerns the problems of oral prosthesis, the book will be of chief interest to oral surgeons and dentists.

Muscle Testing—Techniques of Manual Examination. By Lucille Daniels, M. A., Director and Associate Professor of Physical Therapy, Stanford University; Marian Williams, M. A., Assistant Professor of Physical Therapy, Stanford University; and Catherine Worthington, M. A., Director of Professional Education, National Foundation for Infantile Paralysis, Inc. Pp, 189, with 349 figures. Paper. Price, $2.50. Philadelphia: W. B. Saunders Company, 1946.

This work, stemming from the examination and treatment of cases of poliomyelitis, is an excellent technical presentation of muscle topography, muscle function, joint range, and nerve distribution. The details of a technical examination and its proper evaluation are given. Only on the basis of such an examination can the correct physical medical treatment be prescribed and the results of that treatment be measured. This manual should be of great value not only to the physical therapists, and the general and orthopedic surgeons, but also all other physicians who take care of compensation, veterans and traumatic cases.

The Challenge of Polio. By Roland H. Berg. Pp. 208. Cloth. Price, $2.50. New York: Dial Press, 1946.

This is the story of the researches and crusades against infantile paralysis, written for the layman in terms he can understand. Recommended as a good book for its purpose.

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The Story of Human Birth. By Alan Frank Guttmacher, M. D., Associate Professor of Obstetrics, Johns Hopkins University. Pp. 214. Paper. Price, 25 cents. New York. Penguin Book, Incorporated, 1947.

This is an up-to-date revision of the text for the layman published by the Viking Press in 1937 under the title "Into This Universe." Recommended as a good book for its purpose.

Medical Uses of Soap. Edited by Morris Fishbein, M. D. Pp. 195, with 41 illustrations. Cloth. Price, $3.00. Philadelphia: J. B. Lippincott Company, 1946.

This is the second printing of this opus, with the addition of a new chapter on the surgical uses of soap. The first printing was reviewed in The Journal of February, 1945. Our opinion remains unchanged: "The book may be of interest to physicians, but its future probably depends more upon its appeal to the beauticians and similar artisans."

Animal Farm. By George Orwell. Pp. 118. Cloth. Price, $1.75. New York: Harcourt, Brace & Company, 1946.

This book is considered by many to be the most effective allegory since Gulliver's Travels. The author is an English critic, essayist and novelist, with the subtle wit of his race, but his story fits into the American scene of the past fifteen years so perfectly that one would suspect he was an American, of strictly independent political ideas. He tellingly portrays the inevitable result of unrestrained bureaucracy and the methods and techniques of Godless government, wherever it may be, The Jones' farm could be America! Heartily recommended for any evening; just the thing for that overnight Pullman ride.

The veteran returning with tuberculosis places an added responsibility on the community. The incentive for many veterans to remain in their homes will constitute a menace to the public health. If we are to cope with this problem we must approach it with an understanding attitude. We must remember that although these veterans are the responsibility of the Government, they are also residents of the community, and, as such, are entitled to the sam econsideration as is given tuberculosis non-veterans. When the tuberculous veteran returns to his home community he presents a health problem that must be solved by that community.—William H. Hickerson, M. D., NTA *Bull., Dec.*, 1945.

DR. WEST RESIGNS

The Board of Trustees of the American Medical Association announced on April 3rd the resignation of Olin West, M. D., of Nashville, Tenn., as President-Elect of the A. M. A. because of ill health. He is 72. Edward L. Bortz, M. D., of Philadelphia, who was elected Vice President at the June, 1946, meeting in San Francisco, succeeds to the office of President-Elect and will be inaugurated as President at the 1947 annual session in Atlantic City, June 9-13.

Dr. West, who served many years as Secretary and General Manager of the American Medical Association, tendered his resignation in a letter to R. L. Sensenich, M. D., of South Bend, Chairman of the Board of Trustees. The letter says:

"Because of continued and possibly permanent impairment of health, I feel compelled to submit to the Board of Trustees, through you as its Chairman, my resignation as President-Elect of the American Medical Association, to take effect immediately.

"I take this step with the greatest possible regret, because of having been signally honored by the action of the House of Delegates in electing me to this high office, as well as because of my devotion to the Association and to its ideals. It has been my most earnest desire and my strongest intention to do all that I could do to promote the great cause that the Association has served so well for nearly one hundred years. I sincerely hope that even as an humble member in the ranks I can make some small contribution toward the success of the very worthy aims of our great society.

"I am now firmly convinced that I cannot properly perform the duties of the President-Elect and, later, those imposed on the President and that, in all fairness to the Association, my resignation should be submitted and officially accepted.

"It now seems probable that I shall not be able to attend the Centennial Session to be held in Atlantic Ciy, in which case I hope you, as Chairman of the Board of Trustees, will present my apologies for my failure in office. I hope that the House of Delegates will believe that 'the spirit was willing but the flesh was weak.'

"I have an abiding faith in the A. M. A. and in the sincerity, integrity and soundness of judgment of those who have served and now are serving as members of its official bodies. May the richest of blessings come to all of them!"

In reporting Dr. Bortz's elevation to the office of President-Elect, the April 5 issue of *The Journal of the American Medical Association* says:

Dr. Bortz was born in Greensburg, Pa., Feb. 10, 1896. He received the A. B. degree from Harvard in 1920 and the degree of M. D. in 1923. Following his internship at the Lankenau Hospital from 1923 to 1925, he studied abroad at the University of Vienna and the University of Berlin during 1925-26 and gave further special attention to pathology at the Mayo Clinic and the University of Illinois Medical School. He then became instructor in the Department of Pathology at the University of Pennsylvania School of Medicine and the Graduate School of Medicine from 1930 to 1932.

He has been associate professor of medicine at the Graduate School of Medicine at the University of Pennsylvania since that time and also chief of Medical Service B at Lankenau Hospital. He has been director of the Philadelphia County Medical Society and chairman of its committee on public relations and was president in 1941. He has also been chairman of the Committee on Scientific Business of the College of Physicians of Philadelphia and chairman of the Committee for the Study of Pneumonia Control of the Pennsylvania State Medical Society.

Dr. Bortz has been a Fellow of the American College of Physicians since 1929 and received the certificate of the American Board of Internal Medicine in 1937. He has been assistant editor of the Cyclopedia of Medicine since 1929. In 1939 he received the Meritorious Service Medal for distinguished service to the commonwealth of Pennsylvania, the award being made by former Pennsylvania Governor George H. Earle. In 1943 he was presented with the Founders Medal of the Association of Military Surgeons for exceptional services rendered in connection with the arrangements for its assembly in Philadelphia. During World War II he was on active duty as lieu-

(Continued on Page 58)

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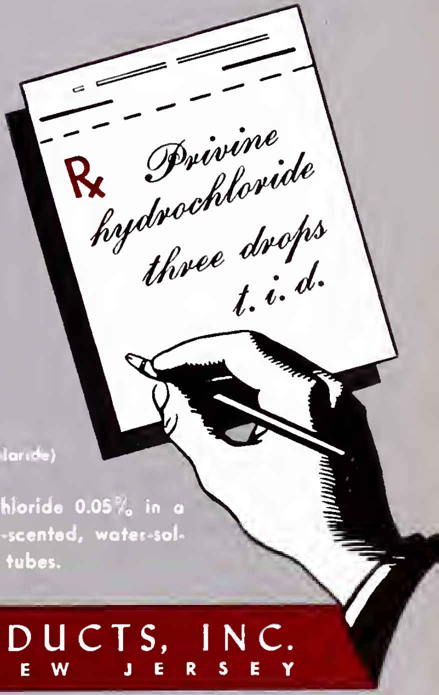

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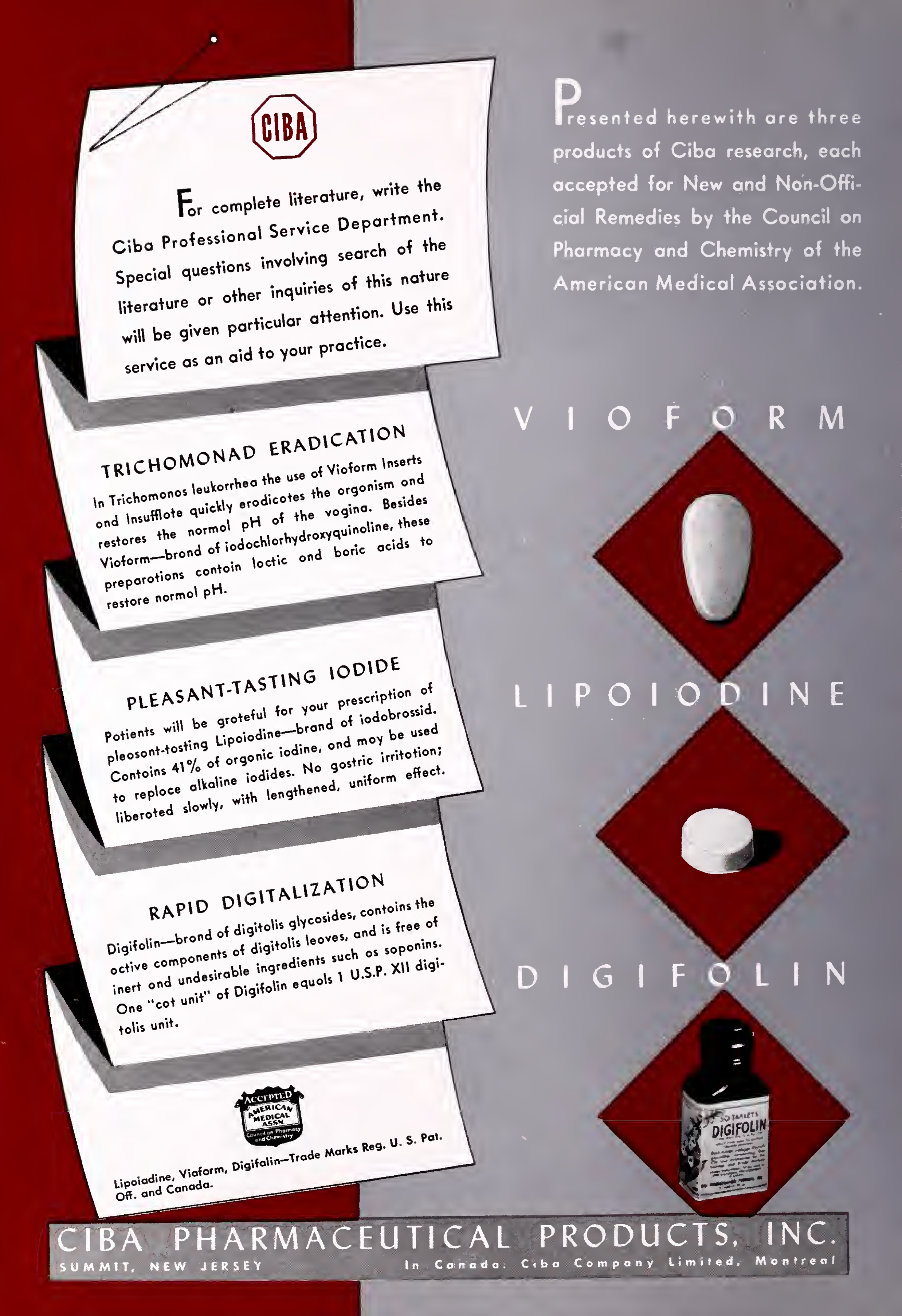

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822 North American Building
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Farnhurst, Del.

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Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Vol. 19 March, 1947 No. 3

Secretary Munson Resigns

Under date of March 8, 1947, Dr. C. Leith Munson tendered to your President his resignation as Secretary of the Medical Society of Delaware. Previously, at the last meeting of the House of Delegates in Dover, October 8, 1946, Dr. Munson spoke plainly about the lack of interest and cooperation generally manifested by the members of the Society, in the hope that conditions would improve. Feeling now that this hope has not materialized, Dr. Munson tenders his resignation, effective immediately.

Your President regrets exceedingly this sudden turn of events and even more so the loss of Dr. Munson's ever-willing services. He has worked industriously and efficiently; he will be missed greatly.

To succeed Dr. Munson the President and Council have secured the services of Dr. John F. Hynes (M. D., Yale, 1930) whose work as the chairman of the Delaware Division, American Cancer Society has been outstanding. Now let every member do his share to assist his officers in making this year a banner year.

Let Them Eat Sawdust

To those thoughtful people who have observed the operation of government controls in the matter of meat and other food products, fuels, and housing, to go no further afield, we address this editorial.

Would you care to see the institution of American medicine, by which we mean medical education, hospitals, and medical practice, in a similar state of confusion?

It seems to us that the serious national postwar impairment of nonmedical services and supply, partly at least as a result of inept government controls, affords a warning that cannot be ignored.

The confusion and inept nature of governmental attempts at control of anything seem to reflect confused and inept thinking on the part of the people who have far too long permitted the establishment and expansion of the alphabetic agencies and their now well entrenched propaganda machines.

Propaganda, promises, and proscription produce no meat, build no houses, shelter no people, feed no invalids, warm no hospitals, mine no coal.

Will the people in their wisdom turn the control and direction of American medicine also over to the grasping alphabetic agencies of government? If they, the people, do this, if they subject the medical schools, the hospitals, the practice of medicine, the care of the sick to the cold, blundering, impersonal recklessness of government agencies in the manner that has been repeatedly proposed under the guise of "health insurance," they will do it in the face of such warning experience as the people of other countries have had but have disregarded. They will do it as well in indifference to the experience of other countries which have undergone such controls. They will do it against the best advice of the American medical profession.

Propaganda, promises, and proscription are, you will agree, no substitute for performance.

This is to indict no political administration or party but to state a fact. Yet, political control of medical institutions once established must subject them to such substitutions since, demonstrably, this is the fact wherever it has been tried. Is medicine motivated by selfish considerations in opposing political controls? Certainly. For modern medicine is built around scientific facts and principles. It deals with the lives of human beings, their medical emergencies, situations in which performance, immediate, skilled, and intelligent—not promises, propaganda, and/or proscription—is essential.

No thoughtful person will deny that when sick people are in need of medical service they need it usually *at once*, not later when it suits some bureaucrat's convenience to authorize it under regulation 297031—A46; when sick people need food they need it *now* and in kind and quantity ordered by a doctor, not promises of it sometime after a cabinet conference, three public hearings, authorization by four unions, and delay by six unauthorized strikes, with subsequent determination by endless fact-finding authorities that there is none to be had. Sick people? What are they but an aggregation of statistics for bureaucrats to juggle—let them eat sawdust.

Editorial, *N. Y. S. J. M.*, April 1, 1947

INFLUENZA—1789

Mrs. Henry Ridgely, of Dover, in going over a large collection of Ridgely letters, discovered the following one, which was forwarded to THE JOURNAL by Dr. Stanley Worden, of Dover. This letter was written by Ann Moore Ridgely from Eden Hill Farm, Dover, Kent County on Delaware, November 3, 1789, to her niece, Mrs. Cadwalader, while Willy Ridgely was at school at Mrs. Brodeau's, in Philadelphia. It is the earliest record of an influenza epidemic yet found in Delaware.

Nov. 3rd, 1789

I have just been informed that Philadelphia and Wilmington are both fully as much, or even more, unhealthy than this County—what shall I do about my Dear Child—My own family Thank God has escaped hitherto—but the Town and Country all round us is filled with this dreadful Influenza—can it attack the same person more than once? and are you sure my Child and your dear Mother have had it? Let me know how you all do—I never heard of people's dying so fast in this neighborhood as at this time—a month or two ago it seemed as if all the Children* were to be taken away and now grown people go faster than they did—Don't let my Dear Willy see this letter—if Mrs. Brodeau's house is unhealthy pray let my child be removed to a healthy one if possible—I never shall begrudge any expense that can be an advantage to her—pray write to me and if my Dear Willy is well tell her to write by first opportunity—May God Almighty Bless and preserve you. A. R.

---

* The death of children refers to a severe outbreak of measles in late summer, 1789.

WOMAN'S AUXILIARY

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 9-13, 1947.

Requests for reservations should be sent immediately to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

COINCIDENCE

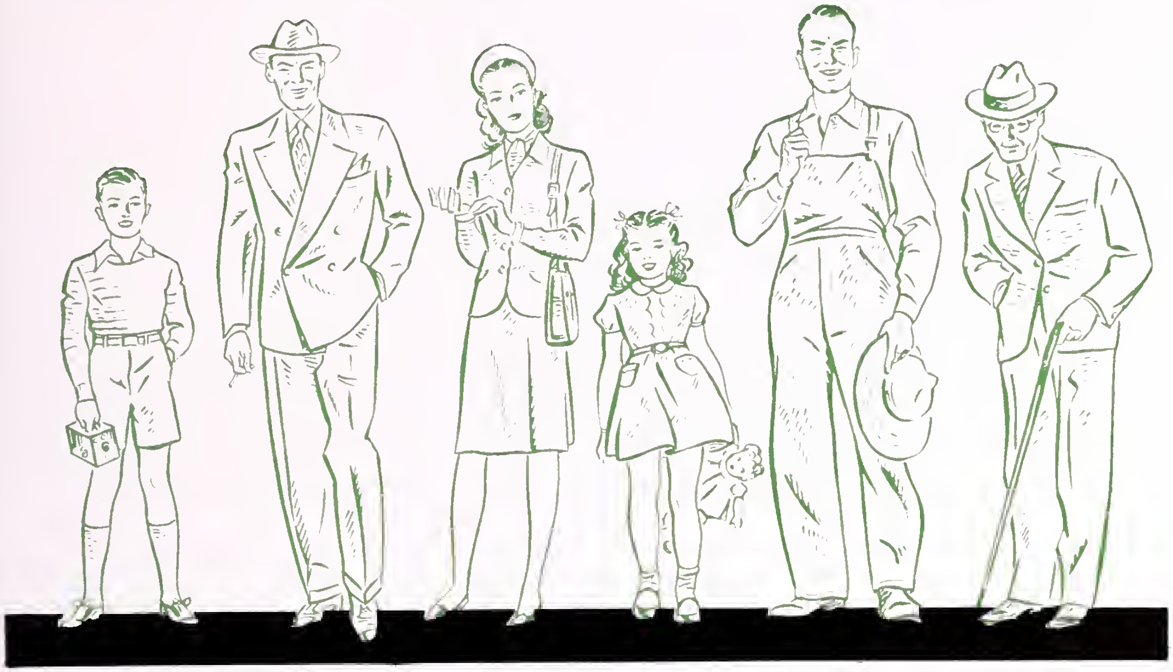
Everybody seems to know that 1947 marks the centennial of the American Medical Association. Nobody seems to know that it also marks the centennial of Smith Brothers cough drops. One hundred years old, both are going strong.

DR. WEST RESIGNS

(Continued from Page 56)

tenant commander and later promoted to captain in the United States Navy, serving from January, 1942, through January, 1944. He was made a member of the Council on Scientific Assembly of the American Medical Association in 1942 and became its chairman in 1945. He is also chairman of the Committee on National Emergency Medical Service of the American Medical Association. He was a member of the House of Delegates in 1945.

Dr. Bortz has served the Association efficiently; to him may be assigned much of the credit for the arrangement of excellent programs in the General Scientific Meetings held during his membership on the Council on Scientific Assembly.



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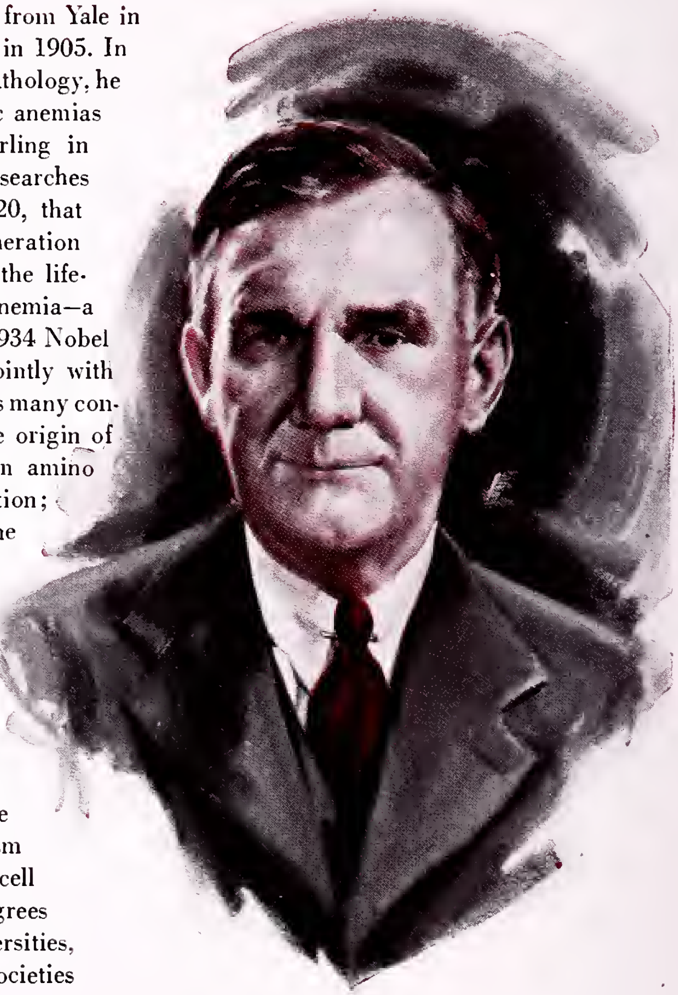
Men and Amino Acids

George H. Whipple received his A.B. from Yale in 1900, and M.D. from Johns Hopkins in 1905. In pursuing his bent for investigational pathology, he studied blackwater fever and parasitic anemias under General Gorgas and Dr. Darling in Panama. In 1917, he began extended researches on anemias. The observation, in 1920, that liver was beneficial in blood regeneration paved the way for the revelation of the life-saving value of liver in pernicious anemia—a discovery for which he received the 1934 Nobel Prize in Physiology and Medicine jointly with Doctors Minot and Murphy. Among his many contributions were those dealing with the origin of plasma proteins; the value of certain amino acids in increasing hemoglobin production; the potency of dietary factors in the formation of hemoglobin and plasma proteins; studies on reserve stores of protein-building materials; and the dynamic exchange of protein materials within the body.

Dr. Whipple is recognized as a pioneer in the experimental use of radioactive isotopes in the study of the metabolism of hemoglobin, plasma proteins, and cell proteins. He has received honorary degrees from many American and foreign universities, and numerous honors from scientific societies here and abroad.



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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60
Proc. Soc. Exp. Biol. and Med., 1934, 32, 241
N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.

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Depressed patients "... suffering from psychomotor inhibition complain of feeling tired, of not being able to get started on their daily tasks, and of an abnormal inclination to procrastinate. They make up their minds that they are going to do a certain thing but they never seem to get to it. Everything seems too big for them ..."*

In the above quotation, Kamman emphasizes "chronic fatigue" as a dominant symptom in the type of depression most frequently encountered in daily practice.

Benzedrine Sulfate is particularly valuable in the presence of "chronic fatigue". It will, in most cases, help to overcome the depression and thus enable the patient to make a sincere and constructive effort to surmount his difficulties.

*Kamman, G. R.: Fatigue as a Symptom in Depressed Patients, Journal-Lancet 65:238 (July) 1945.

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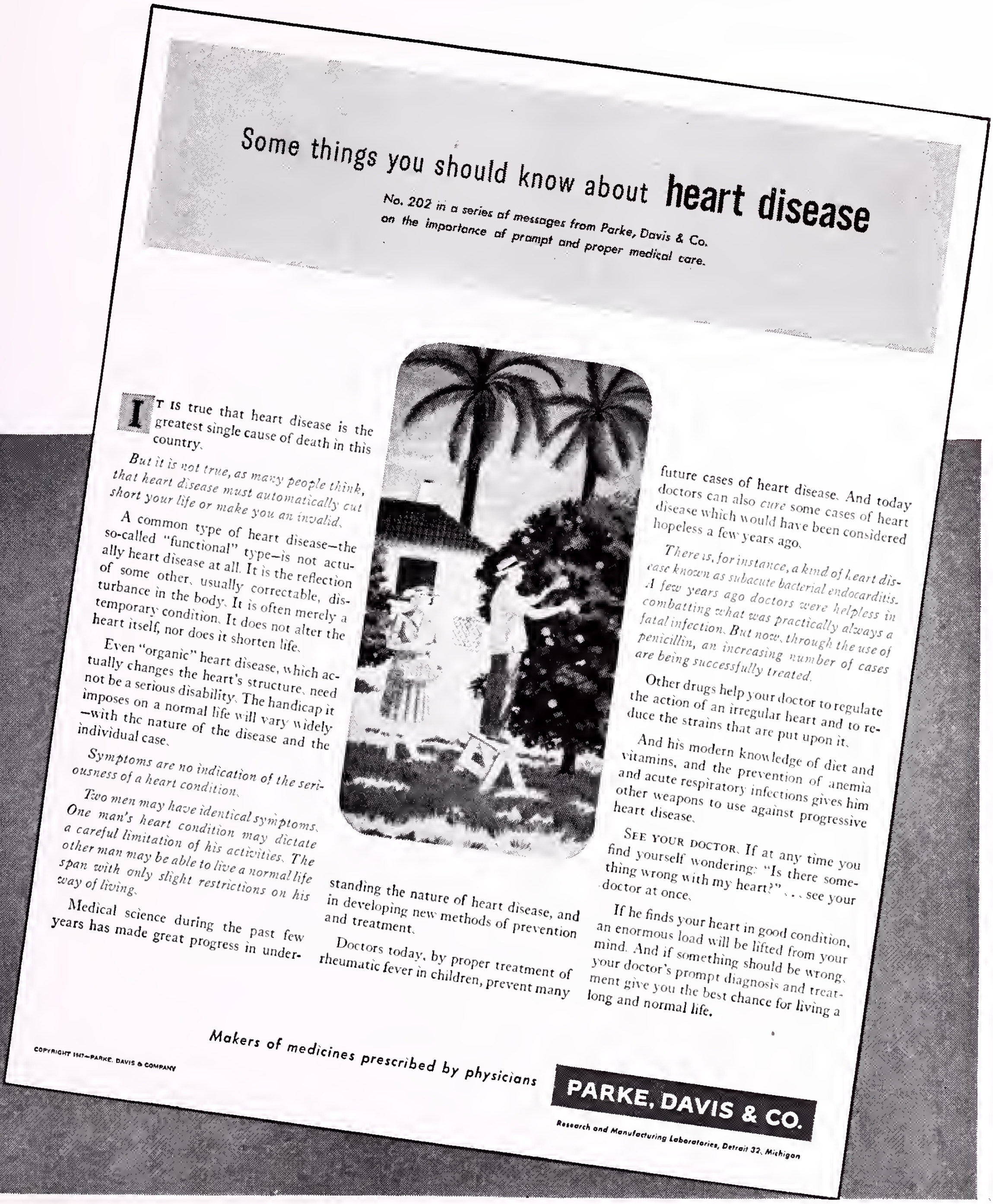

Some things you should know about heart disease

No. 202 in a series of messages from Parke, Davis & Co. on the importance of prompt and proper medical care.

It is true that heart disease is the greatest single cause of death in this country.

But it is not true, as many people think, that heart disease must automatically cut short your life or make you an invalid.

A common type of heart disease—the so-called "functional" type—is not actually heart disease at all. It is the reflection of some other, usually correctable, disturbance in the body. It is often merely a temporary condition. It does not alter the heart itself, nor does it shorten life.

Even "organic" heart disease, which actually changes the heart's structure, need not be a serious disability. The handicap it imposes on a normal life will vary widely—with the nature of the disease and the individual case.

Symptoms are no indication of the seriousness of a heart condition.

Two men may have identical symptoms. One man's heart condition may dictate a careful limitation of his activities. The other man may be able to live a normal life span with only slight restrictions on his way of living.

Medical science during the past few years has made great progress in understanding the nature of heart disease, and in developing new methods of prevention and treatment.

Doctors today, by proper treatment of rheumatic fever in children, prevent many future cases of heart disease. And today doctors can also *cure* some cases of heart disease which would have been considered hopeless a few years ago.

There is, for instance, a kind of heart disease known as subacute bacterial endocarditis. A few years ago doctors were helpless in combatting what was practically always a fatal infection. But now, through the use of penicillin, an increasing number of cases are being successfully treated.

Other drugs help your doctor to regulate the action of an irregular heart and to reduce the strains that are put upon it.

And his modern knowledge of diet and vitamins, and the prevention of anemia and acute respiratory infections gives him other weapons to use against progressive heart disease.

SEE YOUR DOCTOR. If at any time you find yourself wondering: "Is there something wrong with my heart?" . . . see your doctor at once.

If he finds your heart in good condition, an enormous load will be lifted from your mind. And if something should be wrong, your doctor's prompt diagnosis and treatment give you the best chance for living a long and normal life.

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There can be no middle course between the ethics of the medical profession and the temptations of the market place in the field of anatomical supports. Here the standards of the businessman must be elevated to the standards of the doctor because the customer of the businessman is the patient of the doctor. Anything else is "merchandising quackery." We at Camp have for many decades controlled our distribution throughout the recognized retail institutions which like the doctor have earned the respect and confidence of their home communities. No appeal is used in our advertising approach to the consumer which fails to meet the precepts of the profession. We serve the physician and surgeon by living up to our chosen function of supplying scientific supports of the finest quality in full variety at prices based on intrinsic value. We try to insure the precise filling of prescriptions through the regular education and training of fitters. In cooperation with medical and educational public health authorities we play the role our resources permit in promoting better posture and body mechanics. That is our idea of the practical ethical standards which permit the businessman to solicit the recommendation of the doctor.

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Trauma and Nitrogen Equilibrium

Recent recognition of the direct relationship between trauma and protein loss has greatly improved the prognosis in postsurgical and post-trauma patients.

Striking and hitherto unsuspected protein loss has been observed in patients with fractures. Excessive urinary nitrogen excretion reaches its maximal point about a week after the injury is sustained, and thereafter slowly diminishes in extent, so that nitrogen balance is restored in approximately four weeks.[1]

In patients sustaining severe burns, the daily protein loss may be equivalent to 400 cc. of plasma.[2]

In a study embracing 23 burned patients, nitrogen balance determinations revealed excessive urinary nitrogen excretion. Nearly all patients were in negative nitrogen balance which was most marked during the first ten days.[3]

It thus appears that protein destruction and loss are prominent and potentially detrimental sequelae of trauma, and that every effort must be made to restore nitrogen equilibrium as quickly as possible to prevent the many deleterious consequences of protein depletion. The recommendation has been voiced that "whenever possible, protein losses or deficiencies should be corrected by oral feeding."[4]

Among the protein foods of man, meat ranks high not only because of the generous supply of protein it provides, but also because its protein supplies all the essential amino acids, making it applicable for every protein need—growth, tissue maintenance, and tissue repair.

---

[1] Howard, J. E.: Bull. Johns Hopkins Hosp., *74*:313 (May) 1944.

[2] Co Tui, C.; Wright, A. M.; Mulholland, J. H.; Barcham, T., and Breed, E. S.. Ann. Surg. *119*:815-823 (June) 1944.

[3] Hirshfeld, J. W.; Abbott, W. E.; Pilling, M. A.; Heller, C. G.; Meyer, F.; Williams, H. H.; Richards, A. J., and Obi, R.: Arch. Surg. *50*:194 (Apr.) 1945.

[4] Lund, Chas. C., and Levenson, S. M.: J. A. M. A. *128*:95 (May 12) 1945.

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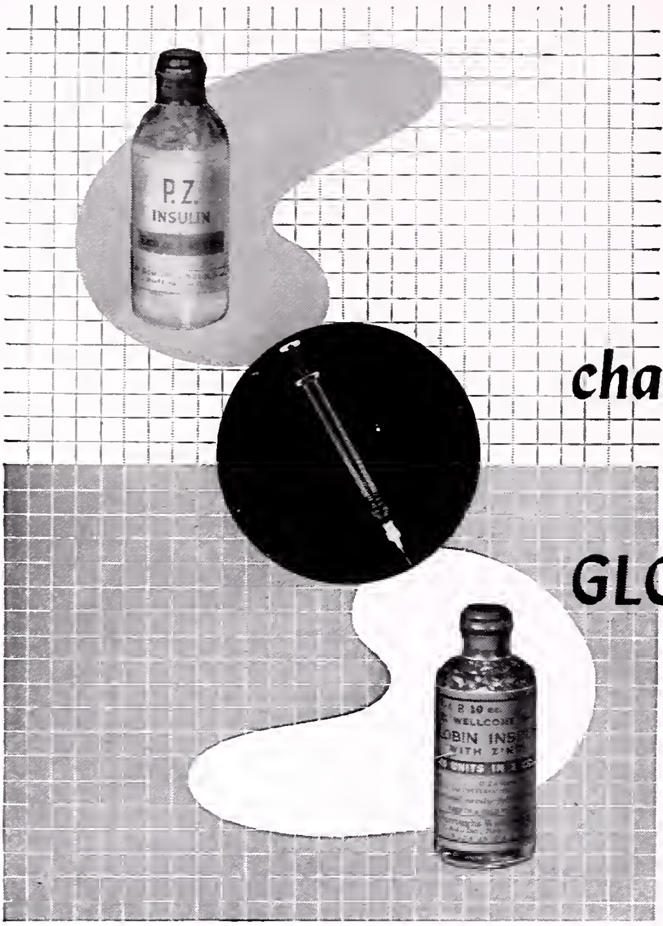

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When protamine zinc insulin treatment is complicated by post-prandial hyperglycemia, nocturnal insulin reaction, protamine sensitivity, or other difficulties, a change to Globin Insulin often results in the desired improvement. The change is achieved in three steps:

1. THE INITIAL CHANGE-OVER DOSAGE: The first day, 30 minutes or more before breakfast, give a single dose of Globin Insulin, equal to ½ the total previous daily dose of protamine zinc insulin or of protamine zinc insulin combined with regular insulin. The next day, dose may be increased to ⅔ former total.

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Most mild and many moderately severe cases may be controlled by *one daily injection of 'Wellcome' Globin Insulin with Zinc.* Vials of 10 cc.; 40 and 80 units per cc. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Pat. 2,161,198. Literature on request.

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(ANSWER BELOW)

1. **Easy to save!** "I'm putting my money into U. S. Bonds because it's the *easiest way* for me to save. Under the Payroll Savings Plan, I put aside a regular amount each week for Bonds. So far, I've saved $500 without missing the money!"

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3. **Plans for the future!** "Ten years from now, the money I'll get for my U.S. Bonds will help to send my kids to college, or buy our family a new home. I think that buying U. S. Bonds is the wisest thing a family man can do."

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April 15, 16, 17 and 18, 1947

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◆

(1) It carries on a continuous educational campaign throughout the State to interpret to its citizens the accomplishments and needs of the Delaware State Hospital, the Mental Hygiene Clinics, the Delaware Colony, and other Delaware institutions and agencies dealing with mental hygiene and emotional problems.

(2) By talks, discussion programs, newspaper and radio publicity, the Society strives to remove the stigma, in the minds of many people, connected with the problem of mental disease in their families, and urges early diagnosis and treatment.

(3) Organizes mental hygiene programs for educational, nursing, social work, Red Cross, religious groups, women's clubs and service clubs in Delaware.

(4) Is engaged in a five-year research and demonstration program to see if transferable techniques for use by teachers with school children can be discovered which will assist in raising the emotional maturity of the average graduate of the schools in this State.

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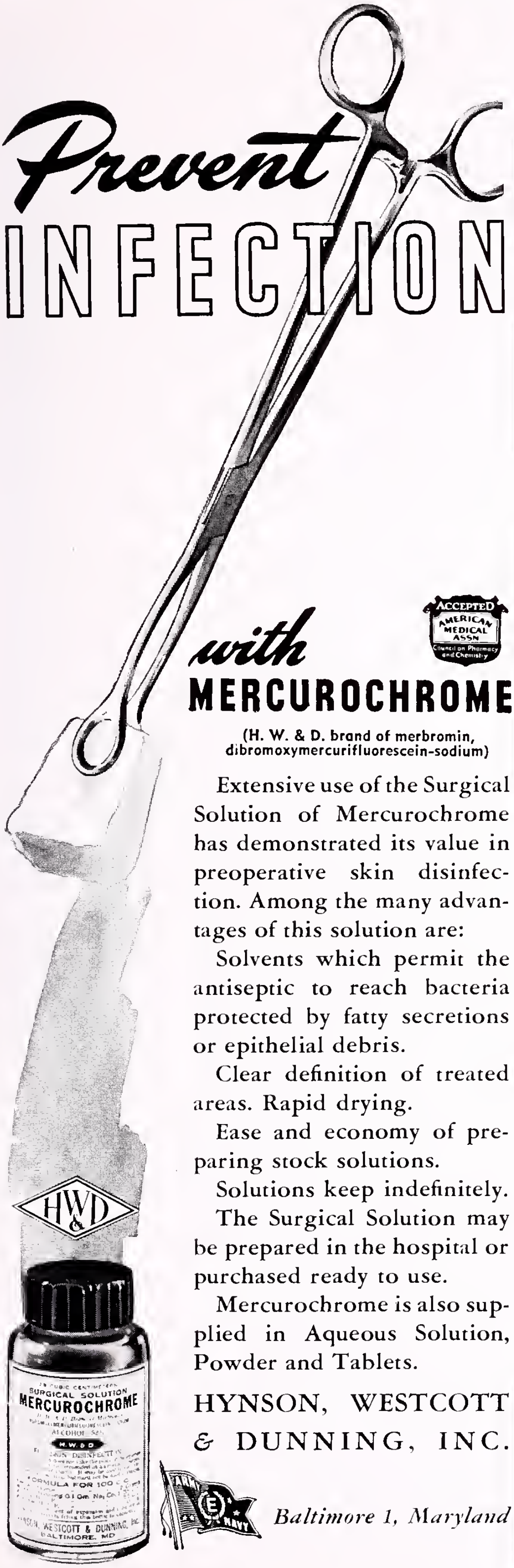

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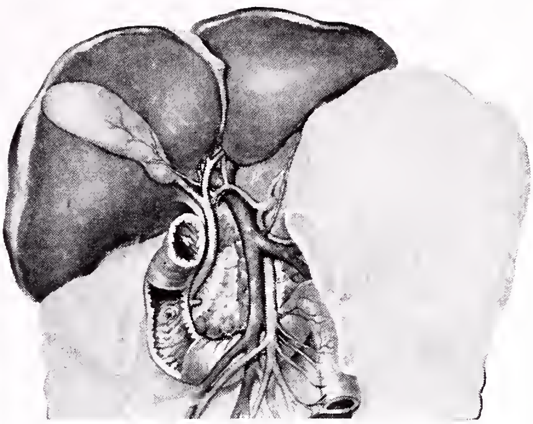

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WILMINGTON, DELAWARE

The sick or injured patient is almost simultaneously subjected to two traumas—the basic pathologic process and tissue malnutrition—for malnutrition almost always begins "as soon as injury or disease occurs."[1] Recognition of the vitamin depleting role of dietary restrictions, increased metabolism, glucose infusions, and impairment of absorption, has brought with it the realization that vitamins must be administered in therapeutic—not maintenance—dosages when multiple deficiencies complicate disease. Upjohn provides a full range of maintenance and therapeutic vitamin preparations for oral and parenteral administration.

1. J.A.M.A. (April 22) 1944

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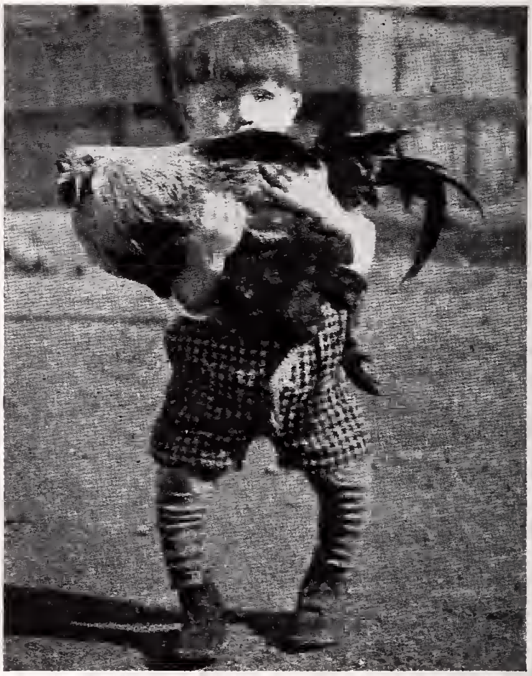

The rooster's legs are straight.

The boy's are not.

The rooster got plenty of vitamin D.

Fortunately, extreme cases of rickets such as the one above illustrated are comparatively rare nowadays, due to the widespread prophylactic use of vitamin D recommended by the medical profession.

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Official Organ of the Medical Society of Delaware
INCORPORATED 1789

VOLUME 19
NUMBER 4

APRIL, 1947

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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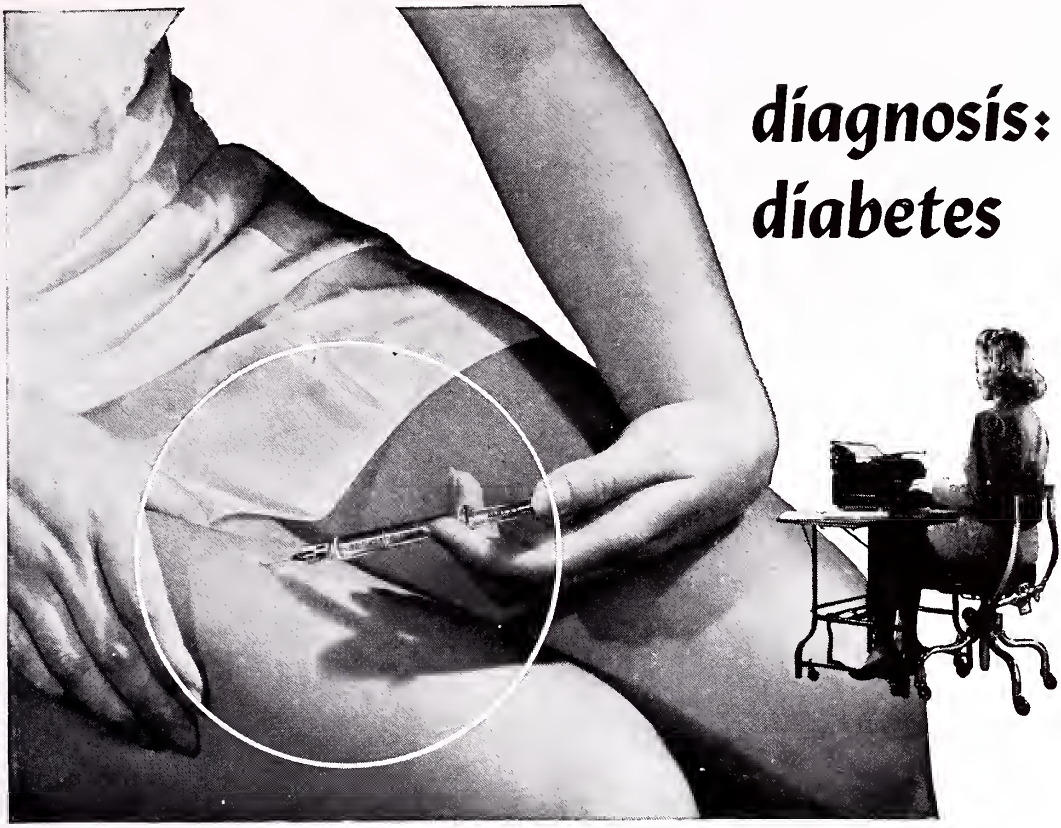

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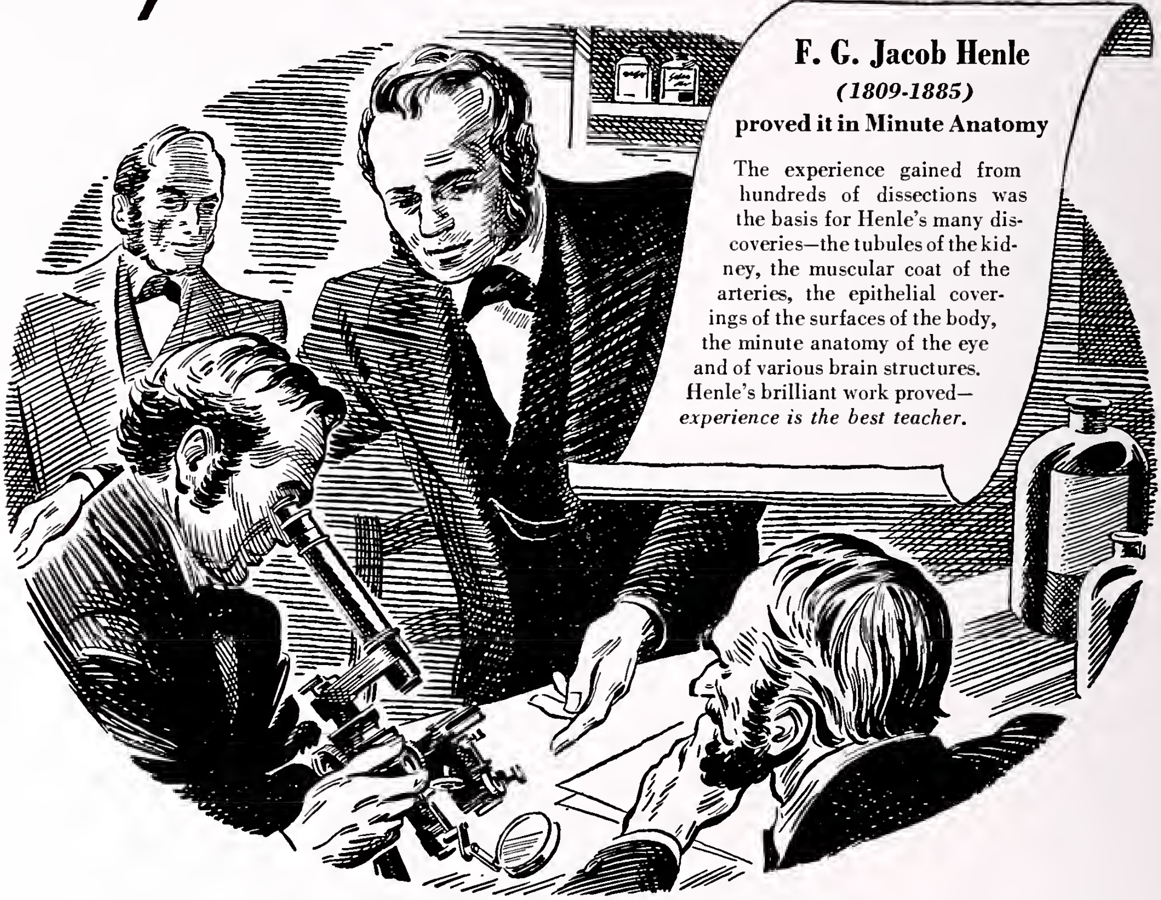

F. G. Jacob Henle
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proved it in Minute Anatomy

The experience gained from hundreds of dissections was the basis for Henle's many discoveries—the tubules of the kidney, the muscular coat of the arteries, the epithelial coverings of the surfaces of the body, the minute anatomy of the eye and of various brain structures. Henle's brilliant work proved—*experience is the best teacher.*

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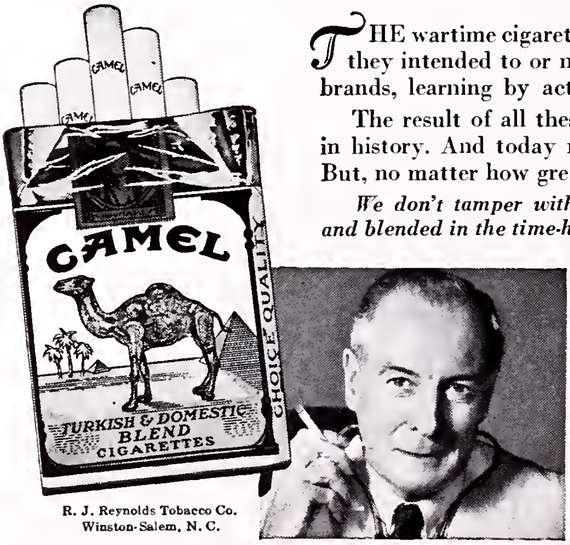

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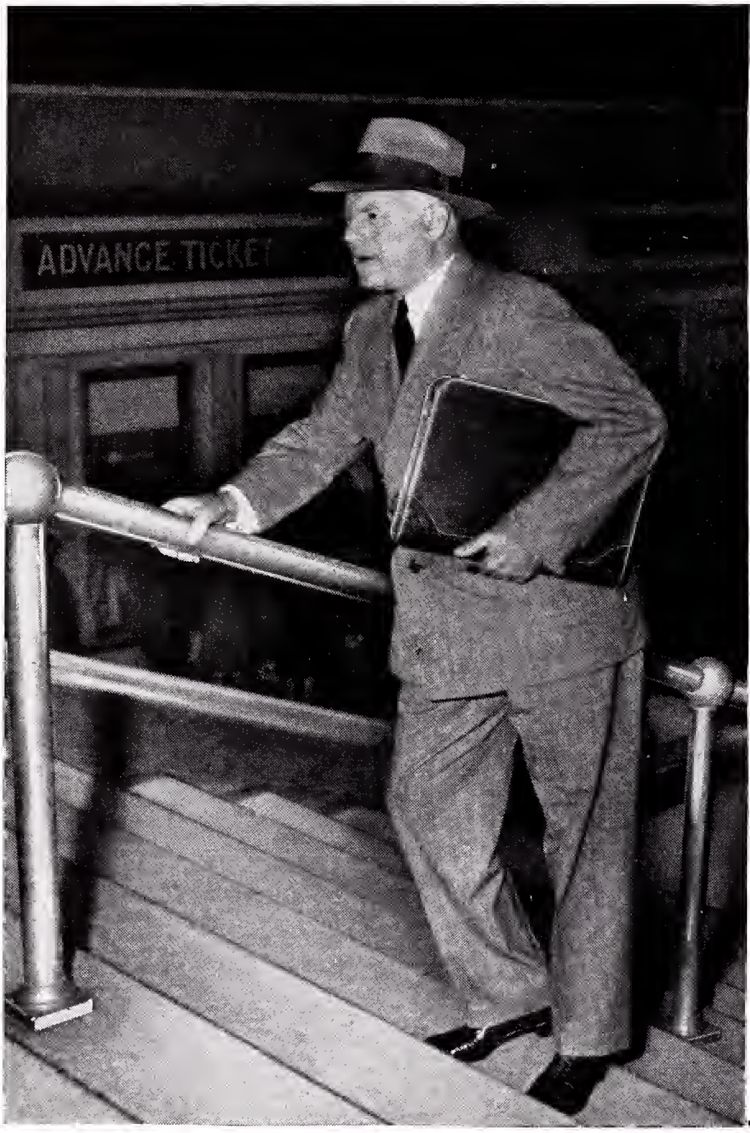

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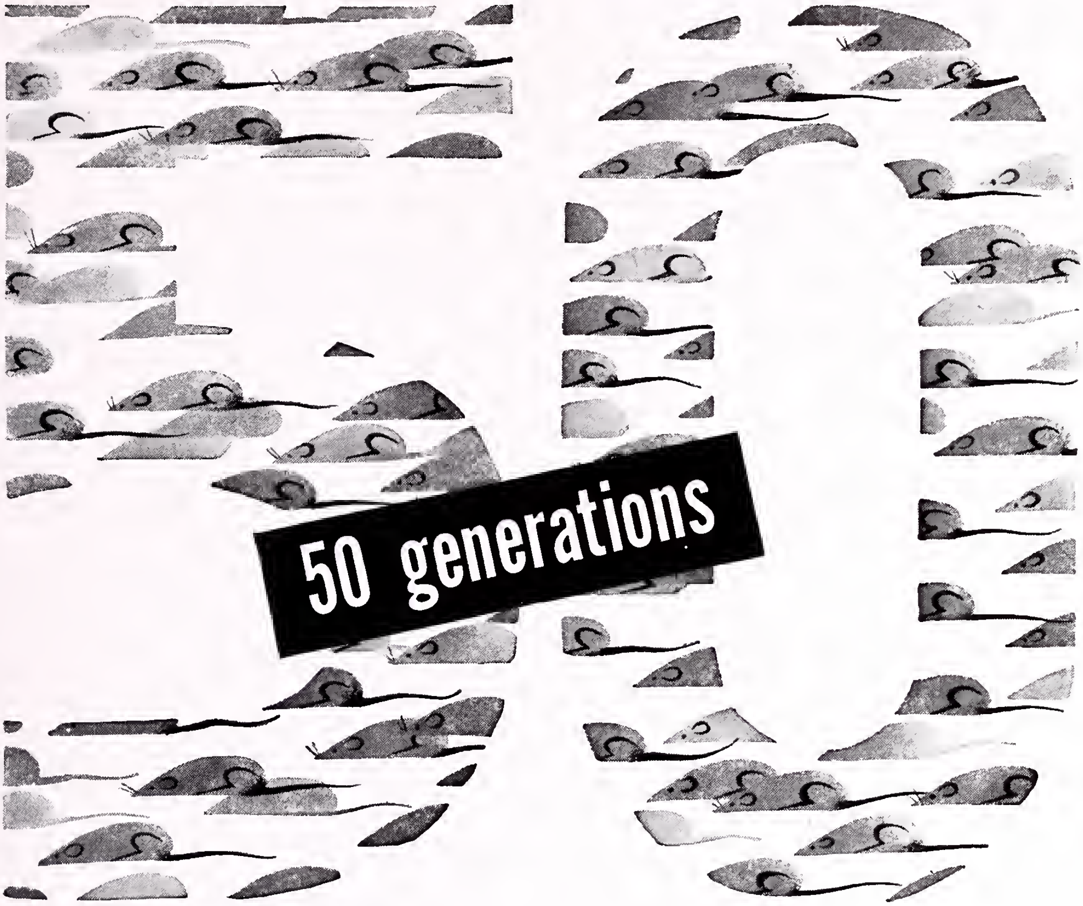

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1. National Research Council Bull. No. 109 (Nov.) 1943, p. 36.
2. Southern M. J. **3**:172 (Feb.) 1946.
3. Statistical Bull. Metropolitan Life Ins. Co. **27**:6 (Dec.) 1946

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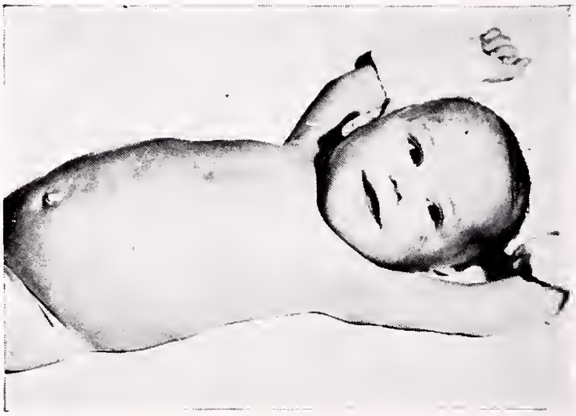

*Levine, S. Z.: J.A.M.A. 128:283, May 26, 1945

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COUNCIL ACCEPTANCE

Pyribenzamine now has been formally accepted by the A.M.A. Council on Pharmacy and Chemistry. A report to the Council on anti-histaminic agents was written by S. M. Feinberg, M.D., in the November 23, 1946 issue of the J.A.M.A. Pyribenzamine was found to be highly effective, and produces relatively few side effects.

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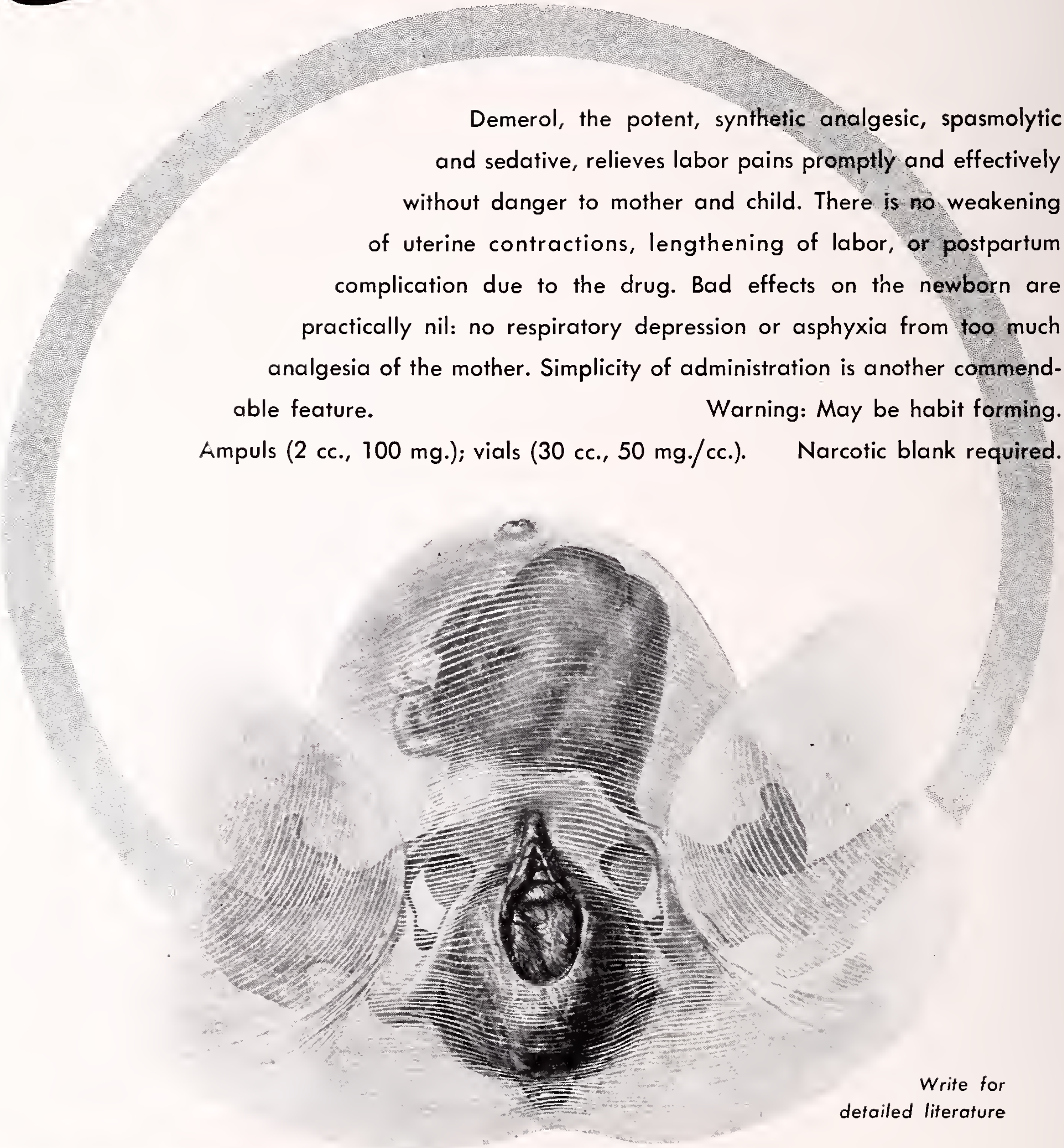

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Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 4

APRIL, 1947

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PERIARTERITIS NODOSA

A Case Requiring Surgery, with a Review of the Literature

THOMAS J. BULGER, M. D.,
Wilmington, Del.

A case of periarteritis nodosa, because of its rarity and because the diagnosis usually takes the physician somewhat by surprise, occasions interest when it appears. The medical literature is replete with case presentations on this subject, all of which contain contributions relevant to the diagnosis, etiology, and treatment, and yet, as one would naturally expect, few of these reports came from surgical sources. It is mainly for this reason that this case is being presented, since its principal clinical features involved an acute surgical condition. Von Rokitansky anatomically described the gross pathological features of this disease in 1852. Kussmaul and Maier, in 1866, endeavored to present the microscopic as well as the gross pathology. Since that time, occasional references to this syndrome have used the eponym, ''malady du Kussmaul.'' The name periarteritis nodosa given by Von Rokitansky, however, appears to be in most general usage. Carnegie Dixon's ''polyarteritis nodosa,'' according to Boyd, would be more technically correct. While this disease is being recognized more frequently, a recent recapitulation of case reports indicates that in both the foreign and local literature there have been approximately 350 cases with only some 50 odd cases being presented here in the United States. Needless to say, the majority of the cases were diagnosed at autopsy. In each case report there has been some outstanding or peculiar expression of the disease which has occasioned the interest of the specialist, and accordingly we find reports from neurological, urological, ophthalmological, roentgenological, and medical sources, the surgeon probably footing the list.

HISTORY

This 39-year-old white married male was first seen by us in January, 1946, complaining of abdominal pain and bleeding per rectum for the past five days.

Family History. No insanity, cancer, tuberculosis, or diabetes; no allergy or vascular disease recalled in his immediate family. Two brothers, living and well; mother, living and well; father, died, cause unknown.

Personal History. Married for ten years, no children.

Habits: smokes approximately one package of cigarettes daily; rarely drinks alcohol.

Occupation: welder in shipyards for the past three years; has been driving a truck for the last six months.

Has not been taking any medicine habitually. Sustained a compound fracture of the left foot several years ago. Had childhood diseases only. Review of systems negative.

Present illness. About five days prior to our first interview the patient began to notice a low abdominal discomfort described as ''a sickening ache.'' This was accompanied by a sense of tenderness in the left side of his abdomen. His appetite had not been particularly good for an indefinite period of time, but with the onset of the above mentioned symptoms he was aware of a definite anorexia and an accompanying feeling of nausea; but he did not vomit. The pain seemed to be below the umbilicus and vaguely left sided, whereas the tenderness he mentioned was more or less just below the costal border on the left side. The pain was constant and aching in character; at times he describes a sensation ''as if gas and liquid seemed to gurgle past a tight place'' on the left side of his abdomen. Following this, he did feel somewhat relieved. The pain was never very severe, but seemed to be aggravated by motion. Beause of these symptoms, he took a large dose of epsom salts. This resulted in the prompt appearance of a mild ''cathartic diarrhea'' which was accompanied by a considerable amount of bright red blood, including some clots which he described as appearing like pieces of liver. It was this alarming symptom which caused him to seek medical attention, plus the fact that his pain and tenderness seemed to be very much increased. His bowel habit, previous to this seance, he regarded as having been normal, and it was his feeling that this whole situation was an acute rather than a chronic problem. He did not volunteer, nor as the result of "lead" questions, indicate any previous history suggesting G. I. tract pathology. Food intolerance was not acknowledged. There was no history of urinary tract symptomology. He did not experience any chills or fever.

His only other complaints were that he has noticed a progressive weakness in his lower extremities which has had an insidious onset and a definite progressiveness over the past six or seven years. He first noted the inability to run any distance or to do any laborious work without the occurrence of muscle cramps in his legs. Superimposed upon this cramping there was a gradual and increasing weakness, occasionally accompanied by twinges of shooting pains down his legs. These complaints, at first minimal, became so marked that at present he is unable to walk more than 100 yards at even a moderate rate without the occurrence of cramps. He can stand all day and walk about slowly.

However, even at rest, he is aware of shooting pains, most marked in the thighs rather than down the legs. These symptoms seem to be somewhat more marked on the right side. He has consulted physicians regarding this condition, but never has had any good explanations or satisfactory treatment. Because of the progressiveness of these symptoms he has taught himself to do watch repairing, anticipating the day when he would necessarily have to have a sedentary occupation. He is unaware of having had any infection, allergic condition, or basic stimulating cause for this present handicap. There is no history of exposure to toxic chemicals other than to negligible amounts of carbon-tetrachloride fumes which he has just begun to use recently in the cleaning of watches, and it is unlikely that this portion of the history is of any significance.

PHYSICAL EXAMINATION

General Appearance. Height, 5 feet, 11 inches; weight, 132 pounds. Asthenic habitus: anxious expression; nervous; nutrition poor.

Head. No abnormalities.

Skin. Dry, scaly, ichthyotic, seems thickened (scleroderma?). No nodules palpable.

E. N. T. Tonsils atrophic—poor dental hygiene.

Eyes. Fundi normal; extra occular movements normal.

Neck. No palpable adenopathy; trachein midline; thyroid normal.

Thorax. Symmetrical; narrow costal angle; free and equal respiratory movement.

Heart. Blood pressure 104/78; pulse 86. Sounds regular, good quality, no murmurs.

Lungs. Clear, resonant, no rales.

Abdomen. Normal contour, soft. There is moderate tenderness in the left upper quadrant on deep pressure, but no definite palpable mass. No rebound tenderness. Peristalsis is present. Liver edge is barely palpable. Kidneys and spleen not palpable.

Genitalia. Normal male; inguinal regions intact.

Extremities. (a) Upper appear normal as to muscle tone, strength and development.

(b) Lower-reveal palsies and generalized atrophy of all groups. There are no palpable pulsations in the femoral, popliteal, or dorsalis pedis arteries. There is a dusky cyanosis on dependency and marked blanching when the legs are elevated. Deep and superficial reflexes intact.

Rectal. Normal sphincter tone; absence of hemorrhoids. A sigmoidoscope was introduced to 20 cm. and the mucosa was noted to be intact, but fecal matter descending at that point was blood stained.

Urinalysis. Albumin, negative; sugar, negative; reaction, acid; specific gravity, 1.032; epithelium, 6; W. B. C., per HPF, 3-4; R. B. C. per HPF, 0; casts, 0; crystals, calcium oxalate; stools positive for occult blood.

Blood Count. Hemoglobin, 13.0; red cells, 4,330,000; white cells, 14,000; total polys, 88; lymphocytes, 4; monocytes, 6; eosinophiles, 2. R. B. C.'s appear normal.

Kahn. Negative. Blood type, Moss II.

Serum Protein, falling drop method, 6.90. Prothrombin time control, 18 seconds; patient, 19.5 seconds. Prothrombin test, 92%. Several repeat blood counts failed to show an eosinophilia. Sedimentation rate was elevated, 26 mm. in 60 minutes. Icterus index,

14. Addis count: unable to determine the number of myelocytes casts in alkaline urine. 654 cc. voided in 12 hours. R. B. C. equals 2,000,000 into total volume voided, W. B. C. equals 3,500,000 in total volume voided.

X-ray. A complete gastro-intestinal study was done and a summary of the report indicated a "normal upper G. I.," with the following findings noted after introducing a Barium enema of "a constricting lesion in the descending colon just distal to the splenic flexure, long and irritable. This could be an inflammatory lesion or a malignancy with contiguous inflammation." A recent chest plate taken of the patient did not reveal any significant findings.

On the basis of the above history and findings, a tentative diagnosis was made of a segmental type of colitis and Buerger's disease. Because of the severity of the rectal bleeding and because the patient had developd signs indicating peritoneal irritation and the possibility of an impending perforation of his bowel, it was decided that his abdomen should be explored surgically.

OPERATION

After being properly prepared for the possibility of a bowel resection, the patient was taken to the operating room and under continuous procaine spinal anesthesia, supplemented with pentathol, the abdomen was explored with the following interesting findings. On opening the peritoneal cavity no free fluid was observed, and also no evidence of metastatic lesions in the liver or on the peritoneal surfaces. The small intestine was completely collapsed, but otherwise normal, as was the stomach.

On inspecting the descending colon, it was noted that there were some adhesions between the lateral wall of the descending colon and the parietal peritoneum, and that the descending colon in its upper third presented an area that was somewhat constricted for a distance of about 4 cm. On palpation this area was slightly thickened and felt less pliable than normal. Proximal to this area of minimal constriction the large intestine appeared to be slightly dilated, its serosal surface was injected, and for a distance of 4 or 5 cm. it appeared to be somewhat edematous. On gently separating the descending colon from the lateral wall of the peritoneal cavity, it was noted that this area of bowel wall was hemorrhagic, but there was no evidence of a free perforation. The adhesions divided readily. The bowel distal to this area appeared to have a more or less normal appearance. A finding of great interest and possibly basic to all of this pathology was a greatly thickened middle colic artery, and what was interpreted at the time of operation as a thrombosis of the accompanying vein. Further, it was noted that there was a palpable thickening of practically all of the vessels in the mesentery in the small bowel, as well as thickening and nodulation along the course of the left colic, middle colic, and celiac arteries. This finding suggested the diagnosis of periarteritis nodosa. The most advanced of these vascular findings were in the left branch of the middle colic artery, and it may have been a thrombosis of its terminal filament which resulted in infarction of the upper portion of the descending colon. Accordingly, the distal portion of the transverse colon, splenic flexure, and upper portion of the descending colon were resected, the so-called obstructive type of resection being performed. The patient withstood the procedure very well.

PATHOLOGICAL REPORT

Gross. Specimen consists of a segment of large intestine, measuring 20 cm. in length. The diameter of the colon is 6 cm. The mucosa along 8 cm. is irregular, hemorrhagic, and shows shaggy areas of ulceration. The midportion of the specimen shows a complete loss of mucosa with only the muscular layers remaining. The margins of this ulceration are sharply defined, with the mucosa being undermined. The middle colic artery is filled with what appears to be a well organized thrombus. The artery is distinctly nodular, suggesting periarteritis nodosa. One portion of the bowel wall is dark red in color and shows evidence of early infarction.

Microscopic. Sections taken through the ulceration of the bowel show a complete loss of overlying mucosa, with necrosis and edema of the lamina propria and submucosa. The vessels in the submocasa are markedly dilated and congested. There is a diffuse infiltration by chronic inflammatory cells and large numbers of polymorphonuclear leukocytes scattered throughout the necrotic appearing submucosa and also extending through all coats. The adjacent mucosa shows a marked edema with congestion of the vascular bed. Sections taken through the left branch of middle colic artery shows the lumen to be filled with a well formed thrombus showing early organization. The subintima is hyalinized and distinctly necrotic in appearance, with the entire muscular wall of the artery infiltrated by inflammatory exudate. The exudate extends into the perivascular tissues. Sections through smaller arteries and arterioles show varying stages of thrombotic changes associated with a distinct necrotizing change in the subintima. The histological picture is typical of periarteritis nodosa.

COURSE

Convalescence was normal until the 11th day, at which time he ran a high spiking temperature of 104, complained of severe pain in his chest and expectorated large quantities of bright red blood. He became cyanotic and appeared to be acutely ill. The exact nature of the episode was indefinite in our minds, but it was felt that he could very likely have sustained another expression of his underlying vascular disease and that his symptoms were due to a pleural-pulmonary infarction. He gradually responded to supportive measures, and was finally discharged with a normal temperature on his 35th post-operative day. An x-ray taken at this time failed to reveal anything more significant than some pleural thickening in the region of his right lower lung and a small collection of fluid. A spur clamp had been used to close the septum in his double barreled colostomy, and he was having bowel movements as well as some colostomy drainage.

Approximately eight weeks after discharge from the hospital, during the course of a routine check-up, the patient complained that he was spitting up considerable amounts of sputum. An x-ray recheck taken at the time indicated that there was a right hydro pneumo thorax. Also the examiner noted a mild icteric tint of the patient's sclera, and an icteric index of 60 corroborated this finding. The patient was admitted for observation, and in the next four or five days his icteric tint deepened so that he finally had an icteric index of 280 units. The jaundice presented a greenish hue. The patient had an immediate direct Van den Bergh's reaction. The cephalin cholestrol test was negative. The galactase tolerance test was within normal limits. Due to the large amounts of bilirubin in the serum it was impossible to do a bromsulphthalein test. His blood count revealed a mild secondary type of anemia. The cause of his jaundice remained a matter of conjecture and we thought again that this was a bizarre effect of his underlying vascular disease. He did not experience any pain and yet there was some reason to believe that perhaps this jaundice was on an obstructive basis. He did complain of some tenderness in the right subcostal region. His jaundice gradually subsided. The empyema cavity was drained and at the time of this operation it was noted that practically one-third of his right lower lobe had sloughed away and there were multiple bronchopleural fistulae. He recovered from this procedure and was finally discharged in about three weeks time to convalesce at home and to be followed as an out-patient. His empyema cavity rapidly decreased in size but finally reached a status where its dimensions were approximately 120 cc. and at this point it would not close down further. Four months later a thorocoplastic procedure was performed and these fistulae were closed. Obviously the patient's prognosis was poor, but the bronchopleural-cutaneous fistulae occasioned him so much distress that it was thought worthwhile to obliterate this defect. His colosomy was left open.

DISCUSSION

As in the case of many obscure diseases, the true etiological factors are often a subject of controversy, and I list the various prevailing etiological concepts of periarteritis nodosa, the clinical manifestations, and pathology as obtained from the available literature.

Etiology. 1. Von Hauss in 1920, and Harris and Freidricks in 1923, were apparently able to produce the disease in rabbits and they believe it due to a filterable virus.

2. Syphilis as a cause of this type of arteritis has lost most of its advocates, due to the fact that neither stigmata of lues, spirochetes or positive Wassermanns can be demonstrated consistently enough to warrant scientific consideration.

3. Malcolm Goodbridge in his article in Cecil's Textbook of Medicine, third edition,

merely states that the character of the inflammatory reaction in the walls of vessels strongly suggest some infectious agent as to the causitive agent.

4. Arkin, Haining and Kimball, in their article in the 1930 Am. Jour. Path., strongly favor the theory of a specific virus.

5. Ophuls, V. Glahn, Pappenheimer, Freideberg, and Gross believe the disease to be related to the rheumatic fever type of reaction.

6. The association of vegetative endocarditis and periarteritis nodosa has been reported by Helpern and Trubeck, Arch. Path. 1933, title of article, ''Necrotizing arteritis and subacute glomerulonephritis in gonococcus endocarditis: toxic origin of periarteritis nodosa.''

7. Cohen, Klein and Young believe that periarteritis nodosa is a manifestation of an allergy so severe that irreversible and destructive lesions occur in the arterial walls and lead to disturbances in function of the organs supplied by the involved arteries. They consider every patient with a severe allergy as a potential candidate for the disease.

8. Along this same line of reasoning, some claim that periarteritis nodosa is not a disease sui generis, but a hyperergic defensive reaction of the small muscular arteries and arterioles to a variety of toxic and infectious factors.

9. Another generally acepted opinion at the present is that the disease results from sepsis and is a complicating or superimposed lesion which is not the primary event.

10. Banowitch et al, reported a case in which the clinical material as well as the pathological material were submitted to noted pathologists and a poll of the information obtained included syphilis, tuberculosis, leprosy, Hodgkins disease and trichinosis as being the underlying pathology.

11. Rich and coworkers have recently reproduced the condition in rabbits by sensitization to serum and sulphonamides.

12. Selye has produced arthritis similar to rheumatic fever and lesions similar to periarteritis nodosa by the administration of desoxycorticosterone acetate to rats, suggesing a possible hormonal reaction.

13. A necrotizing arteritis can be produced in animals by the Goldblatt method. Dr. Clifford Wilson has produced these lesions by clamping the renal artery in rats and producing the characteristic hypertension.

14. Hutinel and Arnaudet report trying transmission tests on dogs, rabbits, and one ape. The latter animal had an intratesticular injection of the material obtained by a papule of a proven case of periarteritis nodosa. The animal died but the pathological findings were inconclusive.

Pathology. As Soma Weiss states the case, the basic pathology of this disease is relatively simple, as an artery is limited as to the ways in which it can react to pathogenic agents, and the physiologic tissue reactions characterizing an arteritis can be recognized in most instances by even the amateur microscopist. Grant made an exhaustive study of the cases reported in the literature as well as a series of his own cases and he points out most of the salient features of this particular type of vascular pathology. His study of these vascular lesions revealed them to be essentially a necrotizing arteritis or a hyaline or fibrinoid necrosis of the arterial wall with surrounding inflammatory reactions. The necrosis affects mainly the inner part of the media and the subintimal regions, although the whole thickness of the wall may be involved. Either a segment of the arterial wall or its entire circumference may be affected, but commonly only short stretches of the vessel are attacked. The points where the smaller arteries branch off are particularly susceptible. Those portions of the artery involved become disorganized and the intimal elastic lamina breaks up with the result that small aneurysms develop. Hemorrhages may occur within the arterial walls or into adjacent tissues. Thrombi often form in the vessels. The adventia and surrounding tissues may be swollen or may not show any change. The type and degree of cellular change varies considerably, depending on the cause and stage of the disease. In some cases the picture is that of a purulent inflammatory process; in others there is but a slight reaction. Usually the reaction is subacute and contains polymorphonuclear and mononuclear cells, lymphocytes and plasma cells. Giant cells are present in some cases and eosinophiles may actually predominate. The arterial lesions may heal leaving granulation and scar tissue, with the result that the wall becomes thickened and the lumen narrowed.

The lesions often develop in crops, and it is usually the small arteries and arterioles which are involved. The larger arteries are involved through their respective vasa vasorum. It is relatively rare that the lesions may be recognized by the naked eye. As in Buerger's disease, the accompanying veins may be involved in the inflammatory process. The arteries, heart, kidney, gastro-intestinal tract, pancreas, liver, lung, spleen, skin, skeleton, muscle, and general nervous system may be the seat of the disease. Kernohan emphasizes the involvement of the peripheral nerves by involvement of the vaso nervosa. Degeneration, infarcts, necrosis, fibrosis, and hemorrhage may occur in various organs, depending on the location and specific characteristics of the vascular lesions. Ulcerative lesions of the G. I. tract, nephritis, nephrosclerosis, fibrosis of liver, nerve degeneration and cutaneous lesions may develop.

Arkin is credited with attempting to break down the pathological process into four stages, but clinically it appears that at the time a microscopic section is made all stages are usually visible in the section.

Clinical Manifestations. Practically all contributors to the literature quote Leishman's remark "the symptoms are distressingly protean." And as Grant and other thoughtful observers point out, in spite of the relative simplicity and essential unity of the underlying pathology clinical manifestations may be exceedingly complex and varied. There are a few generalities concerning the disease which may be made. Males are predominately affected, in the ratio of four to ne. It may occur at any age. Wilmer reports two cases occurring in the first month of life. Rich reports a case of a negro male aged seventy-three. The onset may be insiduous or acute, and very often seems to follow some other infective or toxic state which is in itself obscure in origin. The prodromata when present include general debility and loss of physical vigor; there may be a history of an upper respiratory attack, a "flu," rheumatic attack, a nephritis, or some visceral disturbance. The time of onset and duration of the disease is necessarily uncertain.

A complete list of the symptomatology would cover almost the whole field of medicine, and the list of diagnoses made before the true condition is diagnosed would also make a sizeable list. Grant makes the point that it is even difficult to be sure just which symptoms are due to the periarteritis and which are due to the condition which gave rise to it or may have been the result of it. For instance, are the fever and leucocytosis due to an infection or toxemia, or is this the result of the formation of breakdown products resulting from tissues deprived of their normal blood supply? Or again infection may have secondarily set in devitalized tissues. Naturally this line of reasoning only serves to complicate an evaluation of the symptomatology.

A low-grade irregular fever is usual, but there may be a septic swinging type of fever or it may be afebrile throughout. The pulse rate is usually accelerated out of proportion to the temperature elevation, and when this occurs it is felt by some that it represents myocardial involvement. However, here again the pulse rate may be normal. Emaciation may be extreme or minimal.

The hematological findings are reported by different authors and their viewpoints are most variable.

The most frequent finding is a mild secondary anemia associated with a leucocytosis. However, leucocyte counts to 60,000 are reported; more rarely there is a leucopenia, mainly due to neutrophils, but several observers report an eosinophilia, which may go as high as 79% in over thirty per cent of the cases observed by them. Both Spiegel and Motley reported cases exhibiting a lymphocytosis.

The skin lesions associated with this syndrome are as multiple as the blood findings. For instance, a vesicular hemorrhagic rash, simple erythema, erythema multiforme and nodosum, urticuria, purpura, cutaneous and subcutaneous nodules, and vesicular, pustular and necrotic lesions, have been identified with periarteritis nodosum. Biopsy of the skin with serial section, has resulted in most of the antemortem diagnoses. Involvement of the respiratory system become clinically evident by the appearance of a bronchitis, asthma, bronchopneumonia, pleurisy and pulmonary infarction. Elkeles claims that by taking serial x-rays and noting dense, mottled hilar shadows in the middle and lower lobes, and haziness in the middle and lower lobe lung fields sparing the periphery, the diagnosis of periarteritis is suggested. Our case sustained a rather severe pulmonary infarction from which he recovered.

Digestive symptoms may be no more than a slight discomfort or may simulate an acute surgical abdomen. Lymphadenopathy and splenomegaly are sometimes found. Signs of cardiovascular involvement, as tachycardia and possibly congestive failure, endocarditis, pericarditis, and anginal attacks, have been recorded. Affection of the peripheral arteries is manifest by Raynaud's phenomena. Hypertension is present in a certain percentage of cases, usually in those cases exhibiting severe renal involvement. Eighty percent of the reported cases have renal lesions, as evidenced by such minimal findings as a transient albuminuria and a few granular casts to the finding of a gross hematuria, severe nephritis, or even terminal uremia. Krupp states on the basis of a carefully performed Addis count he is able to make the diagnosis. There is often an associated peripheral neuritis which may affect either motor sensory nerves. The distribution of the neuritis may be "spotty" or it may be bilaterally uniform. The central nervous system is rarely affected.

Leishman has analyzed the clinical features of the cases in the literature and the symptoms and signs found in the order of their frequency are as follows: fever, weakness, albuminuria, cylindruria, leucocytosis, anemia, tachycardia, abdominal symptoms, polyneuritis, polyseritis, edema, cutaneous lesions, cardiac signs, enlargement and tenderness of the liver but not spleen, respiratory symptoms, and finally albuminuric retinitis.

Comments

In retrospect, the correct diagnosis should have been obvious in this case. To be sure, there were lacking the usual eosinophilia, skin nodules, and gross renal lesions, as well as other possible manifestations of the disease, but certainly there was enough clinical evidence at hand to have entertained the diagnosis of periarteritis nodosum. On perusing the literature, there are several case reports of particular interest to the surgeon, for the disease has resulted in the appearance of emergency surgical problems. Sawyer's case had a perforated caecum due to infarction, and Marshal Payne reports a similar incident involving the ileum. Spaulding reports doing a cholecystectomy for severe biliary colic and serial sections of the tissues proved the presence of periarteritis. Bala and Nachtranabel report a similar incident involving the appendix. Singer reports two cases simulating cholecystitis, as did Gruber and Fholz. Thompson reports a case resembling acute cholecystitis. Hauser, Powell and Pritchard report cases necessitating nephrectomy because of either a gross hematuria or massive perirenal hematoma.

Apparently there has not been any specific satisfactory type of treatment. A point regarding prognosis is to be emphasized—not all cases follow a fulminating down hill course: they may actually live for years.

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INTUSSUSCEPTION*

Case Report

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N. M., an infant 10 weeks of age, was admitted to the Memorial Hospital on March 14, 1947, with a 40-hour history of vomiting. The child was in apparently good health until 5:00 A. M. on March 13, when he awoke crying in evident pain, flexing his legs upon the abdomen. Later during the day he began to vomit, and continued to vomit all feedings thereafter. The attacks of abdominal pain recurred intermittently at regular intervals several minutes apart, with free intervals between the attacks. Several retention enemas were given, and at one time the child passed a large quantity of bright red blood per rectum. He was admitted to the hospital at 9:30 P. M. on the following day. At that time the temperature was 100.1, rectally. The infant appeared somewhat apathetic. The upper respiratory tract, heart and lungs were essentially negative. The abdomen was visibly distended, and a definite small intestinal pattern was seen with intermittent peristaltic waves passing through. No mass was felt. On rectal examination blood and mucus appeared on the examining finger.

Operation was performed three and a half hours after admission. Pre-operatively a 10 F. catheter was passed into the stomach. Open drop ether anesthesia was used. A 12 cm. pararectus incision was made, its midpoint at the level of the umbilicus. Markedly distended small intestinal loops immediately presented themselves. High in the right upper abdominal quadrant, beneath the right lobe of the liver, was found the intussuscepted mass, 8 cm. in length, extending up to the hepatic flexure of the colon. On gentle taxis, the intussusception was reduced, and was found to be of the ileo-ileo-colic type. Thus, the apex of the intussusceptum was terminal ilum about 10 cm. from the ilea-cecal valve. This had first invaginated into ileum distal to it, and the whole had in turn telescoped into the cecum and ascending colon. Upon reduction of the intussusception, the innermost loop of invaginated ileum showed some duskiness with evidence of hemorrhage and circulatory embarrassment, but there was immediate improvement in appearance, and return to more normal color. Two tears in the serosa were incurred during reduction, and these were repaired with fine black silk. The abdomen was closed with interrupted through and through sutures of medium black silk.

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Post-operatively the child was given a transfusion of 60 cc. of whole blood and 100 cc. of normal saline by elysis twice daily for the first two days. The stomach tube was left in place for two days. Oral feeding was then started and increased until the infant received a normal formula for his age on the fourth post-operative day. The temperature rose to 103.1 after operation, but gradually fell to normal on the fourth day. The wound healed per primam, and the child was discharged on the 17th post-operative day.

Discussion

Definition. Intussusception is defined as the telescoping of one portion of the intestine into a more distal segment.

Occurrence. The occurrence of the disease varies widely in different parts of the world. It is very common in England, Denmark and Australia, and occurs less frequently in United States and Germany.

About 75% of cases are seen in children under 2 years of age, most of them between the third and eleventh months. Boys are more frequently affected than girls, the proportion being about 2:1.

The disease is rare in thin, undernourished and poorly developed children, but is usually found in very well nourished and well developed children.

Etiology. In cases of intussusception occurring in older children or adults, Meckel's diverticulum or tumors are frequently found as the causative agents.

Eliot and Corscaden analyze 300 cases in adults: benign tumors (myoma, fibroma, polyposis, lipoma), 24% malignant tumors (carcinoma), 16%; bowel ulcerations (bacillary, TB, typhoid), 14%; Meckel diverticulum, 12%; Trauma, a few instances.

In childhood and infancy, on the other hand, definite etiological factors are found in only a small minority of cases. Ladd and Gross present a series of 484 cases, out of which only 23 (5%) had definite causes found as follows: Meckel's diverticulum, 17; intestinal polyp, 4; duplication of intestine, 1; lymphoma, 1.

The frequent occurrence of the disease at 4-10 months of age suggests that a change from a milk to a more solid diet may alter intestinal peristalsis in such a way as to cause invagination. The disease sometimes occurs after acute enteritis. Allergic states have been blamed for some cases.

Classification. (Ladd and Gross): Jejuno-ileal or ileo-ileal, 5%; ileo-colic, 75%; ileo-ileo-colic, 12%; colo-colic, 2%; type not stated, 5%; multiple intussusception, 1%; retrograde intussusception, 0.2%.

Clincal Symptoms. 1. Recurrent, colicky abdominal pain is an almost universal finding. The child pales or doubles up in obvious pain lasting 10-15 seconds, 5-10 minutes apart.

2. Vomiting is an early symptom. It may be repeated and severe.

3. Pallor, sweating, dehydration and shock appear and increase in severity as time elapses.

4. Bloody stools occur in about 85% of cases, but usually not in the first 12-14 hours.

Physical Findings. 1. Early in the course, the child appears relatively well, but gradually the baby is listless, tissues dehydrated, eyes sunken and lustreless. Pulse becomes rapid, skin pale, sweating profuse.

2. Palpable mass is found in 85% of cases. It is usually sausage-shaped and firm. Often advisable to examine the child under general anesthesia. R. L. Q. may appear empty (Dance's sign).

3. Rectal examination. (a) Blood is found in majority of cases; (b) Intussusceptum felt as cervix-like mass; (c) The abdominal mass may be palpable per rectum; (d) The intussusceptum may protrude through the anal orifice.

X-ray Examination. Barium enema shows: (1) Obstruction of the retrograde passage of barium; (2) Cupola or cupping effect of barium when meets the intussusceptum; (3) Cylindrical shell or barium surrounding the intussusceptum; (4) This cylindrical shell remaining after evacuation; (5) Partial or complete retrogression if injected with pressure.

Treatment. In spite of the almost universal adoption of surgical treatment, some advocate reduction with barium enema under fluoroscopic control; others use colonic injection of fluids or air. These methods are objectionable because:

1. Many cases are irreducible, and eventually come to operation, much time having been lost by the delay, with a worse prognosis.
2. Colonic inflation has a limited effectiveness above the ileo-cecal valve and an ileal portion of the intussusception may be left unreduced.
3. A polyp or Meckel's will be overlooked unless operation is performed.

Operation is the treatment of choice, and should be done as soon as possible, as the prognosis varies with the duration of symptoms prior to operation.

Ladd and Gross (1928-1939)—175 cases

0-12 hours	0% Mortality
12-24	0
24-36	23
36-48	33
48-72	21
72-96	38
Over 96	38

Pre-operative Care. Fluids, or transfusion if needed. Feet wrapped in cotton and hot water bottle under back to prevent heat loss. Deflate stomach to reduce danger of aspirated vomitus.

Operation. Open drop ether is best anesthesia. Right paramedian incision best. Reduce by taxis. No additional operative procedures done. If resection necessary, side-to-side anastomosis or Mikulicz procedure is done. Nothing should be done as preventive measure against recurrence.

Post-operative Care. Fluids given intravenously or subcutaneously for at least 24 hours. Stomach deflated. Feeding started slowly after vomiting ceases, normal diet in 4-5 days. Post-operative diarrhea frequent. Chemotherapy if peritonitis occurs. Post-operatively the temperature is up for several days, and is indication of prognosis. The prognosis is influenced by the duration of symptoms, technic, pre-operative temperature, and distal advancement of the leading point.

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KRUKENBERG TUMORS

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In 1896 Krukenberg described this tumor as a peculiar malignant tumor of the ovary, usually bilateral, of considerable size, yet keeping the shape or form of the ovary. It was myxomatous in appearance, slow-growing, and often was associated with ascites. It was eventually fatal by extension and/or recurrence.

Because of its appearance and structure it has been called a "fibrosarcoma mucocellulare carcinomatodes," a name also used by Krukenberg.

The tumor is usually secondary to a primary carcinoma in the gastrointestinal tract. Other possible primary sites are the gall bladder, breast or uterus. Some authors in the literature state that cases have been studied where evidence supports the theory that a Krukenberg tumor may be primary in the ovary.

Amreich studied 373 cases. Of these he found the *primary growth* in the:

Stomach in	250 cases
Cecum or colon in	32 cases
Gall bladder and ducts in	17 cases
Rectum in	14 cases
Small intestine in	9 cases

Villars studied 365 cases. Of these he found the *primary growth* in the:

Stomach in	247 cases
Colon in	31 cases
Gall bladder in	14 cases
Rectum in	14 cases
Small intestine in	8 cases
Appendix	1 case

The frequency of secondary ovarian tumor is rather high, which contradicts the classic statement that organs frequently giving rise to primary tumors are rarely the site of secondary tumor growth.

Secondary ovarian carcinoma is found most frequently in women in the active sexual life group. It seems to be highest in the fifth decade, with 40% in women under 40 years of age. These tumors most frequently affect the multiparous woman.

The method of spread of these tumors from the primary site is not as yet definitely known but the following are the probable routes:

---

* Interne at Memorial Hospital.

1. Metastatic spread of cell emboli via blood and lymph channels or vessels.
2. Seeding of free cells by the peritoneal fluid.
3. Continuous growth from the primary site.
4. Contact implantation of tumor.
5. Trans-tubal migration of tumor particles.

Of these five possible routes the first two, namely, by cell emboli through the lymph and blood channels and the seeding of free cells by the peritoneal fluid, are the most usual seen in the secondary carcinoma arising from a distant primary focus. The other methods of spread occur most often when the primary tumor is in the pelvis or lower abdominal cavity.

Gross Picture

1. Unilateral or bilateral. The right side is usually larger.
2. Mass be any size—microscopic to larger than a fetus.
3. Enlargement of the ovary is uniform and retains the ovarian outline, it may at times resemble a fetal lobulated kidney.
4. Surface is often smooth, but may be nodular and irregular or "bosselated."
5. Tumor is usually encapsulated and rarely forms adhesions.
6. Consistency ranges from firm and elastic to soft and necrotic.
7. Color is usually yellow-white, but may be red-brown, white or gray with degenerative changes.
8. Cut surface is resistant, elastic, and has a mucinous appearance.
9. Cysts are often present, usually of degenerative origin.

Microscopic Picture

The stroma is myxomatous in appearance, and is a fibrillar stroma with spindle cells scattered throughout. The myxosarcomatoid reaction is partly edema and partly degeneration.

The cellular area shows nests of rounded, swollen cells whose nuclei are eccentric, giving the characteristic "signet-ring cells." The cells are found in isolated units or as collections in groups, strands, or acini.

Other types of epithelial cells may be present, sometimes as large vacuolated bodies with small nuclei suggestive of adrenal cortex or corpus luteum.

Clinical Picture

The symptoms are those associated with pelvic tumor, and depend on the size, position, and the rate of growth. Ascites is frequent and practically always found when the tumor is bilateral. With ascites there are peritoneal implants on the intestine, mucosa, omentum, and in the cul-de-sac. Menstrual disturbances are rare. When amenorrhea is found it is due to debility of the patient rather than to the destruction of the ovaries. Fertility may not be impaired, since pregnancies have been found associated with the tumor. Often the uterus appears normal in size, or is slightly enlarged and has a hard, stony consistency. This latter sign is due to the permeation of the uterus with microscopic metastacies and may be pathognomonic.

Therapy

Operative removal of the ovarian growth is indicated. Since the secondary growth is the more rapidly growing one, it is advocated to remove it first, and then remove the primary growth. Primary tumors have been removed, only to have a very rapidly growing secondary tumor appear post-operatively up to five or seven years later.

Radiotherapy has been suggested, but its value is only palliative.

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SURGEONS DISCUSS NURSING

Charging that the nursing profession has "lost sight of the need of the sick for adequate nursing care," the American Surgical Association advocates the immediate establishment of shortened courses for bedside nurses.

"The medical profession, the public, the hospitals and the sick patients demand adequate nursing care," the American Surgical Association says in a report appearing in the April 12 issue of *The Journal of the American Medical Association*. "It can be given. Years of higher education are not required to supply it, in spite of the unwise aims of national nursing bodies."

Commenting editorially on the surgical association's report, *The Journal* says:

"Apparently the surgeons are convinced that there should be many more nurses available for ordinary care of the sick—what is called 'bedside nursing.' They do not believe that the qualifications for studying nursing or the long term of education now in vogue are necessary for the training of girls in this type of service. They place the responsibility on leaders in the nursing profession.

"The situation is obviously more immediate than realized by most people. Recently compiled statistics indicate a deficit of 40,000 graduate nurses for the care of the sick. A poll taken by the American Hospital Association reveals 16 per cent of hospitals in the United States with beds closed for lack of nursing personnel; actually 33,000 beds in hospitals not available. Moreover, many beds are being filled with patients who are being given inadequate care because of insufficient personnel.

"Many reasons are assigned for the shortage of nursing personnel. Demands for hospital service are greater than ever before; enrollment in schools of nursing is lower; the continual shortening of the work day and work week obviously requires increased personnel to meet the needs. The Veterans Administration has greatly increased its hospital facilities and proposes even larger increases for the future. Nurses are being attracted to full time positions in the field of industry, in physicians' offices, in public health agencies, in schools and in other capacities. Great numbers of nurses who enrolled in military service have failed to return to nursing practice. Finally, many nurses get married and discontinue practice of their profession.

"Leaders in the nursing and hospital fields propose a national campaign of recruitment to stimulate enrollment in nursing schools. Whereas 39,000 students were enrolled in nursing in 1938, only 31,000 were enrolled in 1946. Increased enrollment in nursing schools is not, however, the complete answer to the problem. The work of the nurses' aides during the war indicated the potentialities of meeting the demand for 'bedside nurses' by the utilization of intelligent women especially trained in the fundamental duties of making sick people comfortable. The extensive experience indicated that such women can certainly be trusted to take the temperature and respiration and to record them accurately. Many physicians and surgeons are convinced that they could probably be trusted with routine medication except perhaps for narcotics and dangerous poisons. Many conferences have been held seeking a solution of the pressing need for nursing care. Leaders in medicine, hospitalization, nursing education and nursing may well heed the warning that comes from the American Surgical Association as to the imminence of this problem and agree on some immediate action toward a prompt solution of the problem."

The surgical association's report on the nursing problem in the United States was prepared after a questionnaire had been submitted to the entire membership. The report says in part:

> Eighty-four per cent of the surgeons felt that "nurses' aides," equal in experience to those volunteers in wartime, and practical nurses, under the supervision of a nurse with three year training in charge of the ward, would provide a satisfactory solution of our nursing needs. There was almost complete unanimity in the feeling of the surgical profession that the increase in the required training for nurses beyond the three year level had not improved their ability to care for the sick and that it had not promoted closer cooperation between doctor and nurse in the care of the sick. . . . .
>
> Regarding help available for bedside nursing, it is notable that the American Medical Association's annual report of 1946 states that there were in registered hospitals some 80,000 practical attendants, not including orderlies and ward maids. There are now fifty schools of practical nursing approved either by the State Board of Nurse Examiners in states with legal control of the practice of the group or by the National Association of Practical Nurses' Education in states without a licensing law.
>
> The nursing profession has not utilized this help. A closed shop practice has prevailed widely and practical nurses have not been and are not allowed in many hospitals. Their assistance to the sick has been denied. As noted, there has been expression of opposition to the training of bedside nurses in shortened courses in our leading nursing schools. In some states it is prevented by law. While this has been the attitude of their central bodies, there is by no means general agreement in the nursing profession. Shortened courses have been recommended by experienced superintendents of nursing schools. . . .
>
> The need for "bedside" nurses at a reduced cost to the patient can be met at least in part by establishing one year courses of training. It is essential that the medical profession itself interest itself to the extent of insisting on their establishment. The training will of necessity be given under the immediate supervision of the nursing schools. It cannot be expected to operate effectively or fulfill its purpose without the supervision and direction of the medical staff.

"14 Days to 14 Years"

When should rickets prophylaxis begin, and how long should it be continued? Let's look at the cold figures and the recommendations of leading investigators . . . . *(over)* . . . . .

"14 Days to 14 Years"

The Cold Figures

. . . clinical rickets in 37% of 9-months-and-less infants.[1]

. . . signs of rickets in 90% of a group of pre-school children.[2]

. . . histologic evidence of rickets in 46.5% of a group aged 2 to 14, with a peak of 62% in the 10 to 11 year group.[3]

. . . dental cavities twice as frequent in 5 to 15-year old children not on vitamin D as in those receiving it.[4]

The Recommendations

. . . "by the tenth or twelfth day of life, vitamin D in a concentrated form . . . should be started."[5]

. . . administer vitamin D prophylaxis "... from the second week . . . until maturity . . . "[6]

. . . "the addition of vitamin D to the diet is just as important for older children . . . "[7]

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+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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822 North American Building
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Articles are accepted for publication on condition that they are contributed solely to this Journal. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Vol. 19 April, 1947 No. 4

Ave et Vale

As printed in The Journal, March, 1947, (the issue was a little late) the Board of Trustees of the American Medical Association announced on April 3rd the resignation of President-elect Olin West, of Nashville, effective immediately. At the age of 72, physical conditions compelled the resignation of the man who, in only two more months, would have attained the highest gift and honor the American medical profession has to offer—its Presidency.

Following his election, last November we had a nice chat with him in Chicago at the Conference of State Secretaries and Editors, and invited him to come to our 1947 Annual Sessions. His answer was: "I doubt if I can come, but write me a letter in the spring." We wrote on March 22nd, and here is his reply:

March 29, 1947

My Dear Doctor Bird:

Your letter of the 22nd was forwarded to me here and came to hand on the 27th. I greatly appreciate the very gracious invitation extended therein and wish very much that I could accept. My health has been greatly impaired to the extent, in fact, that I have been almost completely incapacitated for the last nine or ten months. I can see nothing to encourage me to hope for any improvement in the near future and I do not want to make any more engagements that I can't keep.

Just between us, the work and worries of the last six or eight years before my retirement last April nearly finished the old man.

It would be good to go to your Annual Session and to have opportunity to take part in the program and to greet you and other old friends and I am sorry that I am to be denied that pleasure.

I suggest that you write to George Lull, who will, I am sure, be glad to do what he can to help you with your program.

With best wishes for you and the Delaware State Society, I am Sincerely yours,

Olin West.

I hope you can decipher this effort at writing. No stenographer is available.

Thus passes out of of the official picture one of the truly great men of American medicine, whom we first met at the Richardson House, Dover, in 1919. The intervening twenty-eight years have only served to increase our respect and admiration. To the kindly personality who would rather be addresesd "Olin" than "Dr. West" we regretfully say: Ave et Vale!

Woman's Auxiliary

A couple more months and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Atlantic City for their Annual Convention, June 9-13.

Have you made your resservations? If not send your request at once to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, N. J.

METOPON HYDROCHLORIDE
(Methyldihydromorphinone hydrochloride)

Dear Dr. Bird:

During the past ten years the Drug Addiction Committee of the National Research Council has sponsored the investigation in the laboratory and clinically of a new morphine derivative, metopon hydrochloride (methyldihydromorphinone hydrochloride). This study has demonstrated that metopon possesses certain outstanding advantages which could make it the drug of choice for the treatment of the pain of cancer, especially in the home care of terminal cases, and for that purpose the Committee has recommended its manufacture and limited marketing. The contemplated plan of limited and controlled availability of the drug is based upon its narcotic character, its somewhat limited supply on account of manufacturing difficulties, and its advantageous applicability only to the type of case indicated. The manufacturers, Mallinckrodt Chemical Works, Merck & Co., Inc., and New York Quinine & Chemical Works, Inc., who are the firms licensed to manufacture morphine, and the distributing pharmaceutical houses, Sharp and Dohme, Inc., and Parke, Davis & Co., have agreed not to advertise the compound, but to leave its introduction to the profession entirely in the hands of the Drug Addiction Committee. We believe the best method of introduction to be the publication of a clear statement of the drug's properties as nearly simultaneously as possible in the national and state medical society journals and to this end the Committee asks your cooperation.

Will you publish the accompanying statement on metopon hydrochloride in the Delaware State Medical Journal at the earliest date possible? If you feel that it is justified editorial comment on the Committee's program will be appreciated. If you have any questions or suggestions we will be very glad to entertain them, and you may be sure that we, who have nothing to gain except the knowledge of more satisfactory relief of the distress of terminal cancer, will be very glad of your help.

Sincerely,

Nathan B. Eddy, M. D., Secretary,
National Research Council, Division of
Medical Sciences, Committee on Drug
Addiction.

In 1929, with the funds provided by the Rockefeller Foundation, the National Research Council, through its Committee on Drug Addiction, undertook a coordinated program to study drug addiction and search for a non-addicting analgesic comparable to morphine. The principal participating organizations were the Universities of Virginia and Michigan, the United States Public Health Service, the Treasury Department's Bureau of Narcotics, and the Health Department of the state of Massachusetts, which brought together chemical, pharmacological and clinical facilities for the purpose of the study. Metopon is one of the many compounds made and studied in this coordinated effort.

Chemically metopon is a morphine derivative; pharmacologically it is qualitatively like morphine even to the properties of tolerance and addiction liability. Chemically metopon differs from morphine in three particulars—one double bond of the phenanthrene nucleus has been reduced by hydrogenation; the alcoholic hydroxyl has been replaced by oxygen; and a new substituent, a methyl group has been attached to the phenanthrene nucleus. Studies made thus far indicate that pharmacologically metopon differs from morphine quantitatively in all of its important actions—its analgesic effectiveness is at least double and its duration of action is about equal to that of morphine; it is nearly devoid of emetic action; tolerance to it appears to develop more slowly and to disappear more quickly and physical dependence builds up more slowly than with morphine; therapeutic analgesic doses produce little or no respiratory depression and much less mental dullness than does morphine; and it is relatively highly effective by oral administration.

In addition to animal experiments these differences have been established by extensive employment of the drug in two types of patients—individuals addicted to morphine, and others (terminal malignancies) needing prolonged pain relief but without previous opiate experience. In morphine addicts, metopon appears only partially to prevent the impending signs of physical and psychical dependence. In terminal malignancy, administered orally, it gives adequate pain relief, with very little mental dulling, without nausea or vomiting, and with slow development of tolerance and dependence.

The high analgesic effectiveness of oral doses (with the elimination of the disadvantage to the patient of hypodermic injection), the absence of nausea and vomiting even in patients who vomit with morphine or other derivatives, the absence of mental dullness and the slow development of tolerance and dependence place metopon in a class by itself for the treatment of the chronic suffering of malignancies, and it is for that purpose exclusively that it is being manufactured and marketed.

Metopon will be available *only* in capsule form *for oral administration*. The capsules will be put up in bottles of 100 and each capsule will contain 3.0 mgm. of metopon hydrochloride. They can be obtained by physicians only from Sharp & Dohme or Parke, Davis & Co., on a regular official Narcotic Order Form, which must be accompanied by a signed statement supplying information as to the number of patients to be treated and the diagnosis on each. The drug will be distributed for *no other purpose* than oral administration for chronic pain relief in cancer cases.

The dose of metopon hydrochloride is 6.0 to 9.0 mgm. (2 or 3 capsules), to be *repeated only on recurrence of pain*, avoiding regular by-the-clock administration. As with morphine, it is most desirable to keep the dose at the lowest level compatible with adequate pain relief. Therefore, administration should be started with two capsules per dose, increasing to three only if the analgesic effect is insufficient.

Tolerance to any narcotic drug develops more rapidly with excessive dosage and under regular by-the-clock administration. Also, as a rule, the pain of cancer varies widely in intensity from time to time. Pain, therefore, should be the only guide to time of administration and dosage level. Tolerance to metopon hydrochloride develops slowly. It can be delayed or interrupted entirely by withholding the drug occasionally for 12 hours or for as much of that period as the incidence of pain will permit.

To each physician will be sent a record card for each patient to whom metopon hydrochloride is to be administered. He will be requested to fill out these cards and return them in the addressed return envelope. He must furnish this record of his patient and his use of metopon hydrochloride if he wishes to repeat his order for the drug. The principal object of this detailed report is to check the satisfactoriness of metopon hydrochloride administration in general practice. The physician's cooperation in making it as complete as possible is earnestly solicited.

The limited use of metopon hydrochloride as described above has been recommended by the Drug Addiction Committee of the National Research Council and the Committee, with the cooperation of the American Cancer Society, will supervise the distribution of the drug. The Committee is composed of Wm. Charles White, Chairman, Washington, D. C.; H. J. Anslinger, Commissioner of Narcotics, United States Treasury Department, Washington, D. C.; Lyndon F. Small, National Institute of Health, Washington, D. C., and Nathan B. Eddy, National Institute of Health, Washington, D. C. Queries and comments on metopon may be directed to Dr. Eddy, who will answer them for the Committee.

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MISCELLANEOUS

Salt Substitute

People who cannot or should not use salt may now at least have the savor.

Meeting newest medical concepts of salt-free diets, scientists of the Winthrop Chemical Company, Inc., have developed a new salt substitute. Called Neocurtasal, the product will be sold in retail drug stores, according to Dr. Theodore G. Klumpp, Winthrop's president.

Most interested in Neocurtasal will be those the medical profession term "hydrated individuals." They are the people whose tissues store abnormal quantities of water. They swell, become fat, unless put on a diet of restricted salt and fluids. Cardiac, renal, and other diseases associated with edema call for similar treatment.

The new product contains no sodium. It has a salty flavor, however, is palatable, flows freely, and is used in the same manner as salt. It is being distributed in 2-ounce shakers and 8-ounce bottles.

The product is described as "odorless, white, crystalline, some hygroscopic powder, consisting of potassium chloride, ammonium chloride, potassium formate, calcium formate, magnesium citrate and starch."

American Society for the Study of Sterility

The third annual convention of the American Society for the Study of Sterility will be held at the Hotel Strand, Atlantic City, New Jersey, on June 7-8, 1947. The general theme of the meetings will be that of attempting to disseminate to the physician treating marital infertility an overall picture of the latest advances in reproduction. The convention will include original papers, round table discussions, scientific exhibits, and personal demonstrations.

In essence, this will be a valuable post-graduate course on the subject of sterility and infertility. Registration for the sessions is open to members of the medical and allied professions. Additional information may be obtained from the Secretary, Dr. John O. Haman, 490 Post Street, San Francisco 2, California, or from Dr. O. J. Pollak, Wilmington General Hospital, Wilmington.

American College of Chest Physicians

The Thirteenth Annual Meeting of the American College of Chest Physicians is scheduled to be held at the Ambassador Hotel, Atlantic City, New Jersey, June 5 to 8. An interesting scientific program has been planned for this meeting. Prominent speakers from other countries will present papers.

The oral and written examinations for Fellowship will be held on the first day of the meeting, June 5. Applicants for Fellowship in the College who plan to take these examinations should communicate at once with the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The Convocation for new Fellows and Life Members of the College will be held on Sunday, June 8. At this time certificates will be awarded to Fellows and Life Members admitted since June, 1946.

Program: M. S. of D.

The program for the 1947 Annual Session of the Medical Society of Delaware is now in the making. It seems to be the general desire that more papers by our own profession should be scheduled. We are in full accord with this, and invite, nay urge, our own doctors to prepare for this session. Please write promptly to the Secretary, Dr. Hynes, and give him the title of your paper. Many thanks for your cooperation.

New Method To Reduce Death Rate From Acute Appendicitis

Use of penicillin and sulfadiazine has reduced the death rate, the length of illness and complications from acute appendicitis, according to four Chicago doctors writing in the March 29 issue of *The Journal of the American Medical Association.*

The physicians are William D. Griffin, Joseph Silverstein, Harry G. Hardt Jr. and Lindon Seed from the Cook County Hospital, Chicago.

The physicians point to a mortality of approximately one per cent for the 108 patients with acute appendicitis treated with the two drugs between March and October, 1946. In the period 1944-45, before these drugs were used in conjunction with the standard treatment, the mortality rate was 4.3 for 592 appendectomy patients.

The average hospital stay also has been reduced as a result of the use of the drugs. In 1935 a patient had to remain in the hospital anywhere from 12.1 to 19.6 days, depending on the complication; in 1944 he had to stay from 11.0 to 19.7 days, whereas in 1946 he stayed between 7.9 and 11.7 days.

The drugs were administered in the following way. Twenty thousand units of penicillin were injected into the muscles before operation followed by 20,000 units of penicillin every three hours for four days after surgery, totaling 660,000 units. The patients also received one gram of sulfadiazine four times a day after the operation. Both drugs were used in order to obtain a greater range of protection against the possible growth of bacteria.

The 108 eass were classified as follows: (1) acute appendicitis, producing pus, 62; (2) acute gangrenous appendicitis, 17, and (3) perforated appendicitis, 29. There were 77 adults, of whom 55 were men and 22 were women, and 31 children.

Three cases of abdominal abscesses and one case of pelvic abscess were observed in this series. The authors state that "these abscesses subsided spontaneously on the continuation of the routine administration of penicillin and sulfadiazine. The masses became less tender, smaller and then disappeared." The temperature gradually dropped to normal, they report, and the patients were discharged by the 21st day following operation.

"There were nine instances of wound infection," according to the Chicago physicians. "In five of these, drains were inserted at the time of operation. The use of penicillin and sulfadiazine seemed to prevent development of severe infection in the wounds. In the infected wounds there was also an apparent absence of local tissue reaction, as evidenced by a minimal amount of pain, tenderness, heat and swelling of the surrounding tissues."

BOOK REVIEWS

Principles and Practice of Obstetrics. By Joseph B. DeLee, M. D., Late Professor of Obstetrics and Gynecology, the University of Chicago, and J. P. Greenhill, M. D., Attending Obstetrician and Gynecologist, the Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, the Chicago Lying-in Hospital; Chairman Dept. of Gynecology, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. 9th edition. Pp. 1011, with 1108 illustrations on 860 figures, 211 in color. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

The new edition has been improved and enlarged over the last one. Many changes have been made in keeping with the progress that has been made in the field of obstetrics and related subjects. The author has added a great deal of new material, and some of the old material has been changed and enlarged.

Included in this book are new chapters that deal with prenatal and postnatal care, subjects that have been glossed over in many text books. This should be beneficial to the student as well as to the practitioner. The chapter on minor disturbances of pregnancy, we believe, is a very important addition. Not enough attention has been paid to this subject heretofore. A whole chapter is devoted to the discussion of the erythroblastoses. Another chapter has been added for the care of premature babies.

The most common drugs used for analgesia are discussed in the chapter on anesthesia. In addition, the use of caudel analgesia, local and infiltration anesthesia is described in detail. The latter should be of special benefit to the practitioner. A new chapter on prolonged pregnancy or post-maturity and missed labors has been added.

The description of the operation of circumcision is good. It should, however, have included one or two other methods, especially the clamp method which is being used more and more.

The book is well illustrated and in several places the illustrations are enriched by strips from motion pictures. These strips should have been enlarged so that one would be enabled to see more detail.

The book, in general is quite comprehensive, is written in a very interesting style, and should be received very cordially by students as well as practitioners.

Gynecological and Obstetrical Pathology With Clinical and Endocrine Relations. By Emil Novak, M. D., Associate in Gynecology, Johns Hopkins Medical School, Gynecologist, Bon Secours and St. Agnes Hospitals, Baltimore. Second edition. Pp. 570, with 542 illustrations, 15 in color. Cloth. Price, $7.50. Philadelphia: W. B. Saunders Company, 1947.

This edition, like the previous one, is not too large. It contains all the information that not only the student but, very frequently, the pathologist would require.

The author has the ability of presenting the subject matter in a very comprehensive manner without taking too much space. This edition is an improvement over the last in that it brings the subject matter up to date. The illustrations have been increased in number and quality. Some color photographs have been added.

This volume is excellent for the teacher as well as the student.

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T. H. Baker, Wilmington
G. H. Gehrmann, Wilmington
W. C. Deakyne, Smyrna
G. W. M. VanValkenburgh, Georgetown

Cancer

J. W. Howard, Wilmington
D. M. Gay, Wilmington
J. F. Hynes, Wilmington
W. H. Kraemer, Wilmington
O. J. Pollak, Wilmington
W. C. Pritchard, Smyrna
J. Stites McDaniel, Dover
A. H. Williams, Laurel
O. A. James, Milford

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J. R. Beck, Wilmington
L. M. Dobson, Millsboro

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J. R. Durham, Jr., Wilmington
L. B. Flinn, Wilmington
Charles Levy, Wilmington
L. D. Phillips, Marshallton
Franklin Everett, Dover
R. C. Comegys, Clayton
C. M. Moyer, Laurel
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J. A. Giles, Wilmington
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E. H. Mercer, Dover
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Criminologic Institutes

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P. R. Smith, Wilmington
C. B. Scull, Dover

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L. B. Flinn, Wilmington
E. G. Laird, Wilmington
E. R. Mayerberg, Wilmington
O. N. Stern, Wilmington
W. H. Lee, Middletown
W. T. Chipman, Harrington
J. B. Waples, Georgetown
James Beebe, Lewes

SPECIAL COMMITTEES

Revision of By-Laws

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E. R. Miller, Wilmington
C. E. Wagner, Wilmington
J. S. McDaniel, Dover
R. C. Beebe, Lewes

Vocational Rehabilitation

L. J. Jones, Wilmington
D. J. Preston, Wilmington
W. H. Speer, Wilmington
H. V'P. Wilson, Dover
E. L. Stambaugh, Lewes

Postwar Plans

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W. E. Bird, Wilmington
W. O. LaMotte, Wilmington
W. H. Speer, Wilmington
J. S. McDaniel, Dover
William Marshall, Jr., Milford
J. R. Elliott, Laurel
J. B. Waples, Georgetown
R. C. Beebe, Lewes

Budget

M. A. Tarumianz, Farnhurst
C. E. Wagner, Wilmington
J. D. Niles, Townsend
J. S. McDaniel, Dover
James Beebe, Lewes

Cheff Memorial

W. W. Lattomus, Wilmington
E. R. Miller, Wilmington
A. J. Heather, Wilmington

Advisory, Delaware State Health and Welfare Center

L. J. Jones, Wilmington
L. B. Flinn, Wilmington
A. R. Cruchley, Middletown
I. J. MacCollum, Wyoming
E. L. Stambaugh, Lewes

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Meets Third Tuesday

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A. Leon Heck, *President-elect*
C. T. Lawrence, Jr., *Vice-President*
D. D. Burch, *Secretary*
Charles Levy, *Treasurer*

Board of Directors and Nominating Committee: C. C. Neese, 1947; L. B. Flinn, 1948; Ira Burns, 1949.

Board of Censors: B. M. Allen, 1947; N. W. Voss, 1948; C. L. Hudiburg, 1949; C. L. Munson, 1950; J. M. Messick, 1951.

Program Committee: A. L. Heck, Roger Murray, C. T. Lawrence, Jr.

Legislative Committee: M. A. Tarumianz, J. M. Barsky, E. M. Bohan, F. A. Bowdle, L. C. McGee.

Public Relations Committee: C. E. Wagner, G. M. Boines, I. M. Flinn, Jr., M. B. Pennington, O. N. Stern.

Medical Economics Committee: C. C. Neese, W. E. Bird, J. R. Durham, Jr., E. T. O'Donnell, W. M. Pierson.

Necrology Committee: G. W. K. Forrest, M. I. Samuel, G. W. Vaughan.

Auditing Committee: F. S. Skura, David Platt, D. J. Preston.

Delegates (1947): B. M. Allen, L. W. Anderson, G. A. Beatty, L. B. Flinn, G. W. K. Forrest, L. J. Jones, J. D. Niles, S. W. Rennie, F. S. Skura, M. W. Squires, C. E. Wagner.

Alternates (1947): E. M. Bohan, I. M. Flinn, Jr., E. G. Laird, W. H. Lee, L. C. McGee, C. E. Maroney, W. M. Pierson, D. J. Preston, W. T. Reardon, J. A. Shapiro, W. J. Urie.

Delegates (1948): D. D. Burch, Ira Burns, N. L. Cutler, J. R. Durham, Jr., J. A. Giles, A. L. Heck, J. C. Pierson, W. F. Preston, M. A. Tarumianz, R. O. Y. Warren.

Alternates (1948): G. M. Boines, Italo Charamello, D. M. Gay, L. S. Hayes, A. J. Heather, A. D. King, E. T. O'Donnell, M. B. Pennington, F. P. Rovitti, O. N. Stern.

KENT COUNTY MEDICAL SOCIETY

Meets Second Wednesday

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John P. Martin, *Vice President*, Camden.
Eugene H. Mercer, *Secretary-Treasurer*, Dover.

Delegates: J. S. McDaniel, H. W. Smith.

Alternates: I. J. MacCollum, John Martin.

Censor: W. C. Deakyne.

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Meets Second Tuesday—Even Months

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V. A. Hudson, *Vice-Pres.*, Millsboro.
R. S. Long, *Secretary-Treasurer*, Frankford.

Delegates: Bruce Barnes, R. S. Long, James Beebe, H. S. Riggin.

Alternates: L. M. Dobson, C. M. Moyer, E. L. Stambaugh, G. W. M. Van Valkenburgh.

Censors: O. A. James, R. C. Beebe, A. C. Smoot.

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James Krygier, *First V-P.*, Dover.
R. R. Wier, *2d V. P.*, Wilmington.
H. H. McAllister, *Secretary*, Wilmington.
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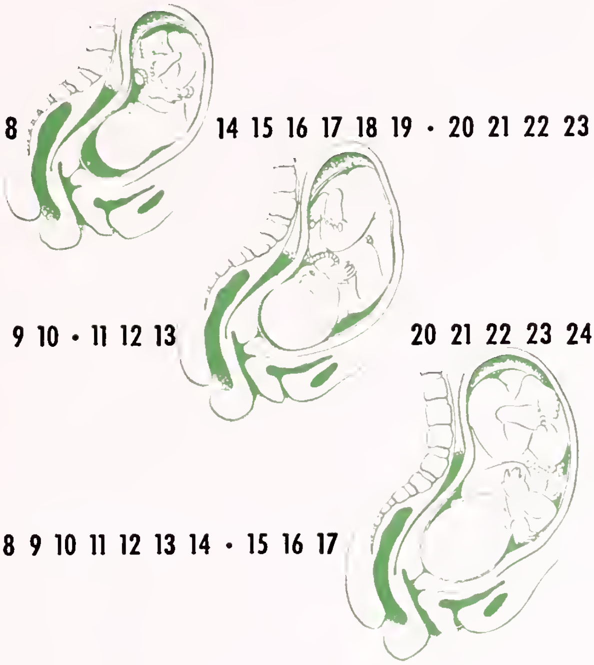

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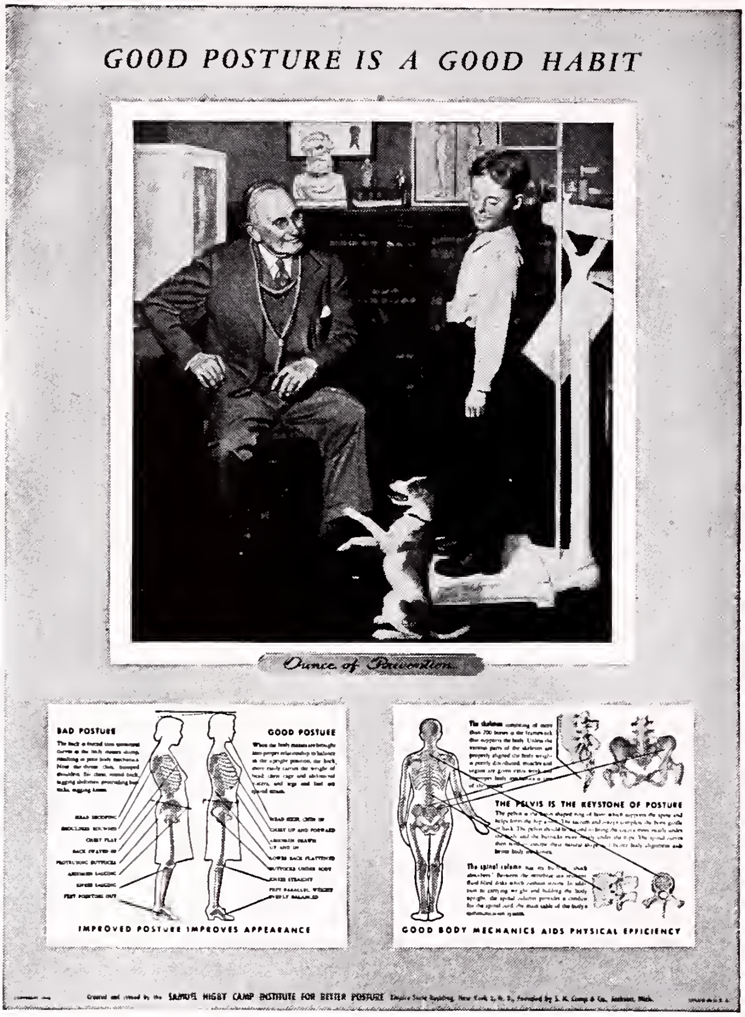
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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp. Biol. and Med., 1934, 32, 241; N. Y. State Journ. Med., Vol. 35, 6-1-35, No. 11, 590-592.*

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*Feinberg, S. M.: J.A.M.A., 132: 703 (Nov. 23) 1946.

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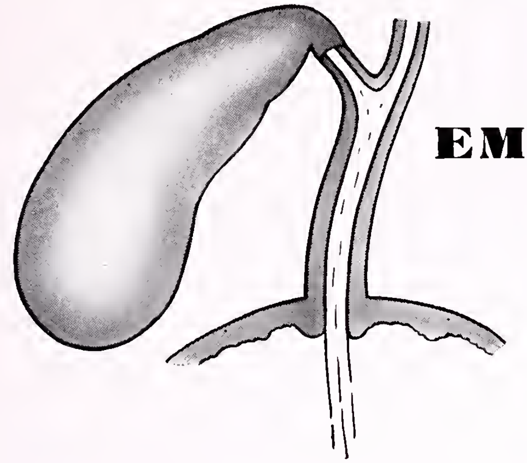

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VOLUME 19
NUMBER 5

MAY, 1947

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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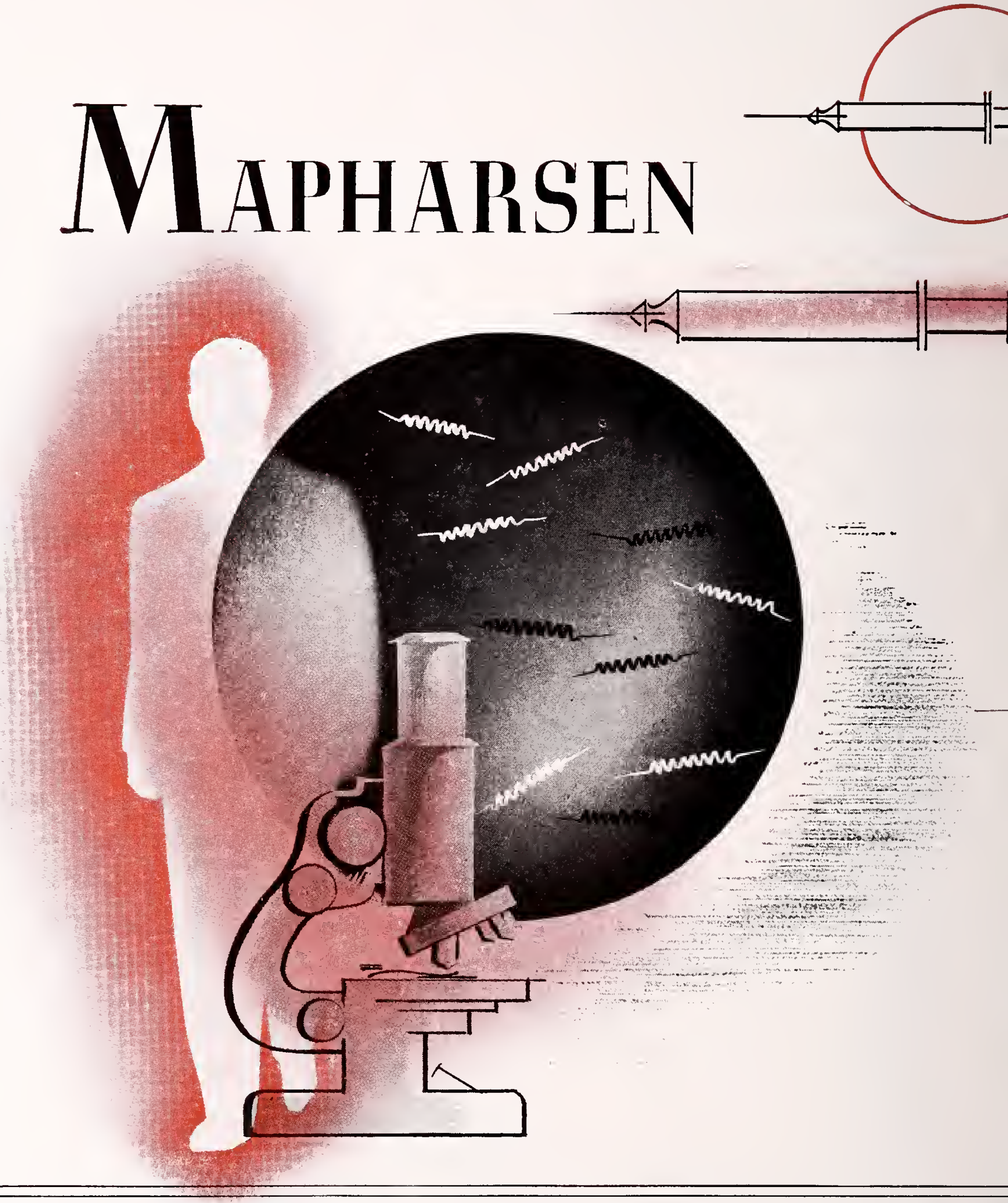

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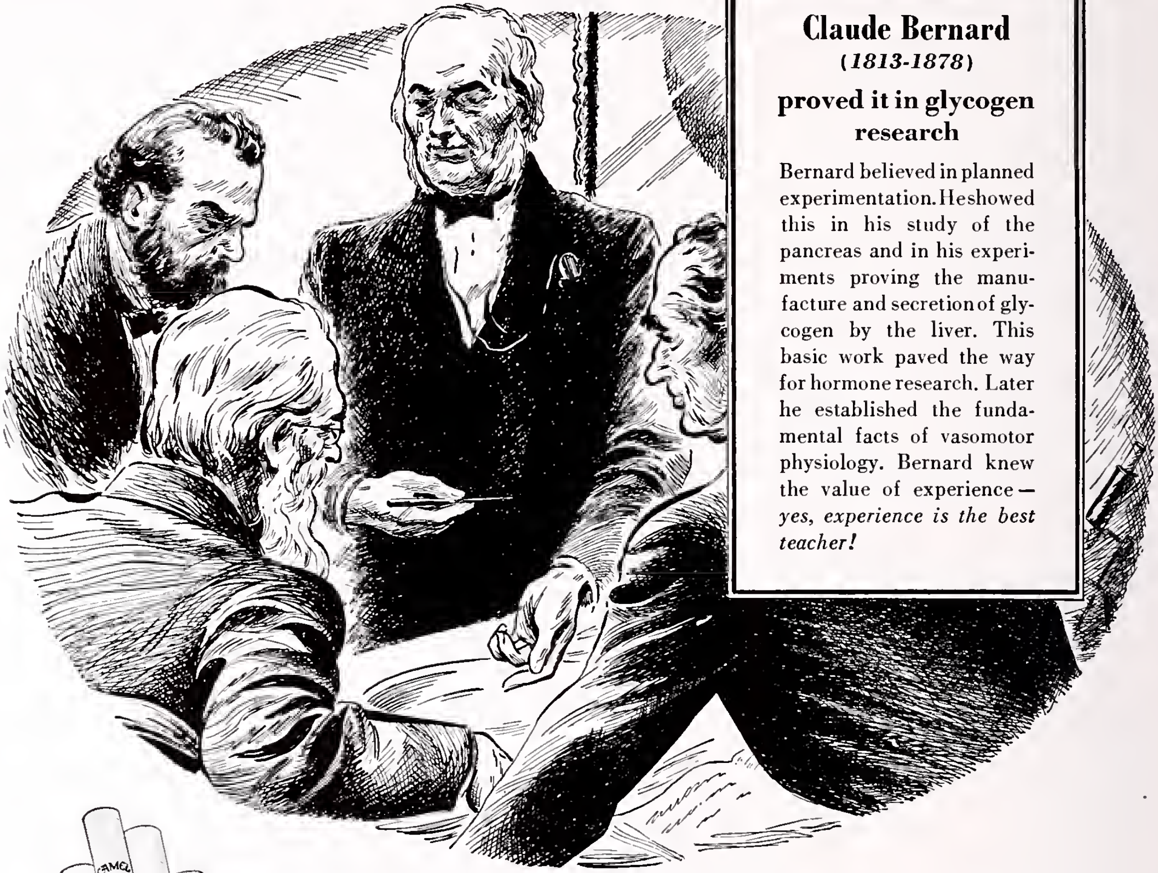

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(1813-1878)
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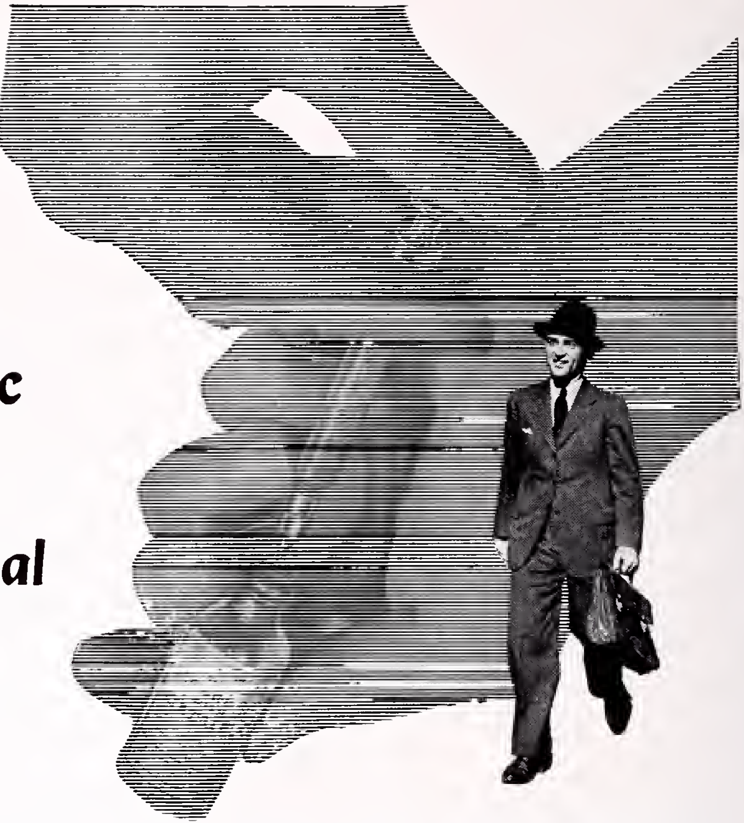

to convert the diabetic into a more normal person

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[1] Bauman, L.: Bull. New Eng. M. Center 5:17 (Feb.) 1943.

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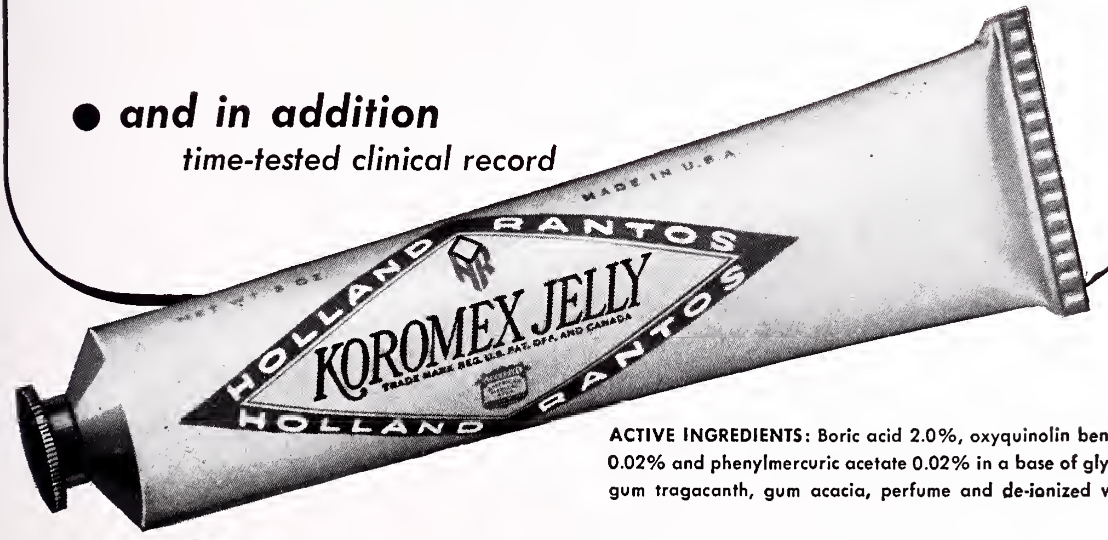

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1. Bickers, W.: Am. J. Obst. & Gynec. 51:100, 1946.
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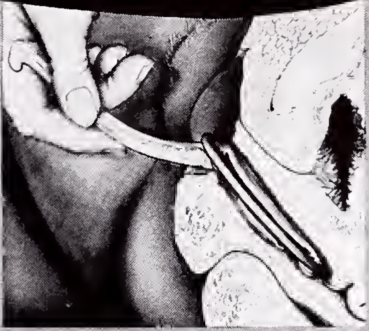

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1. Editorial: J.Am.Dietet.A., *22*:1063 (Dec.) 1946.
2. Ravdin, I.S.: Some Problems of Protein Deficiency, Connecticut M.J., *11*:7 (Jan.) 1947.

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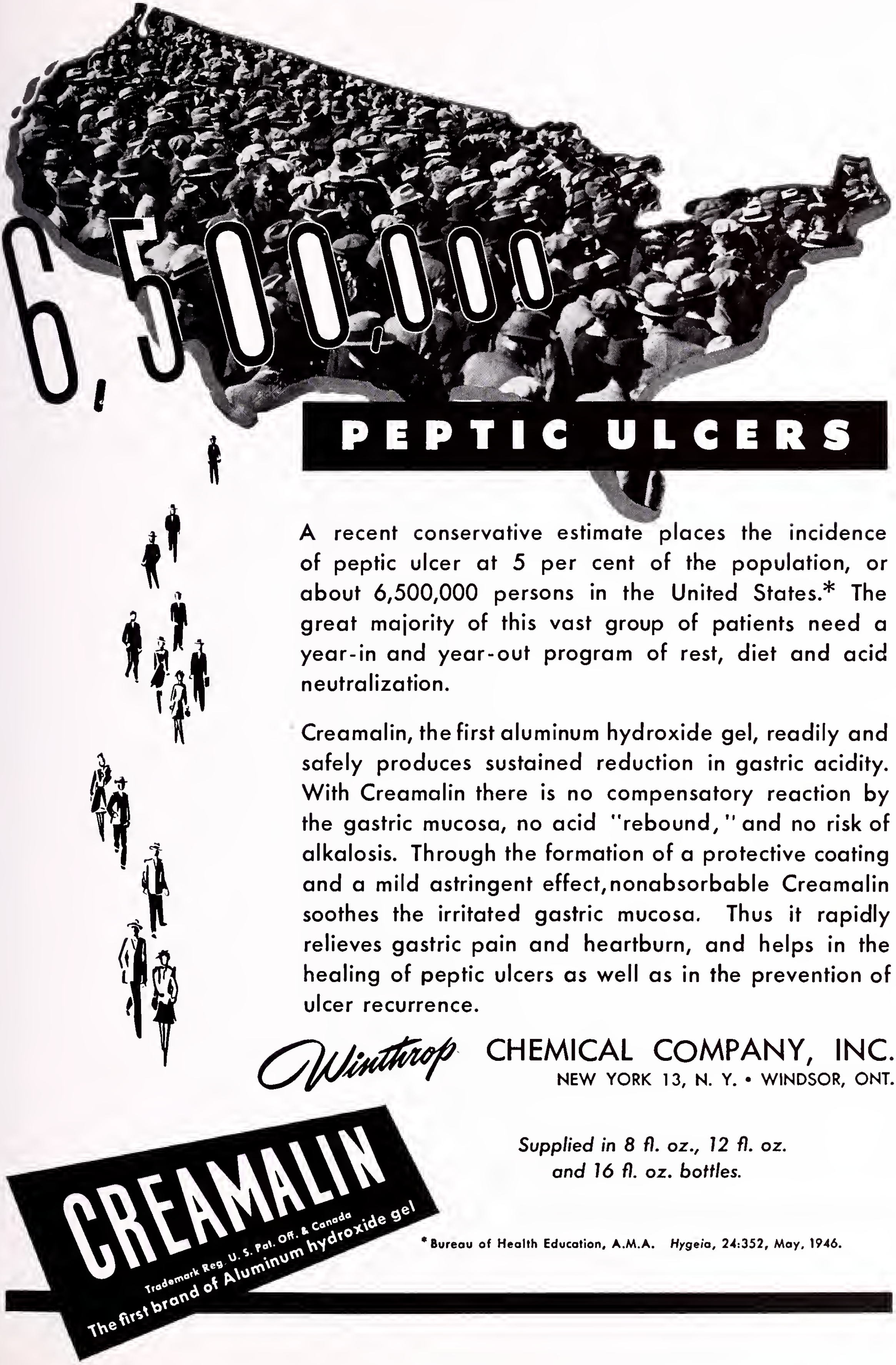

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*Bureau of Health Education, A.M.A. *Hygeia*, 24:352, May, 1946.

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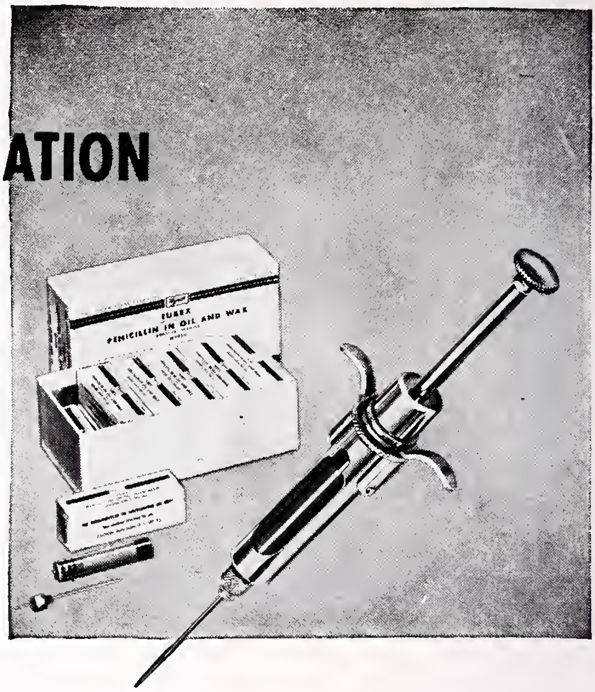

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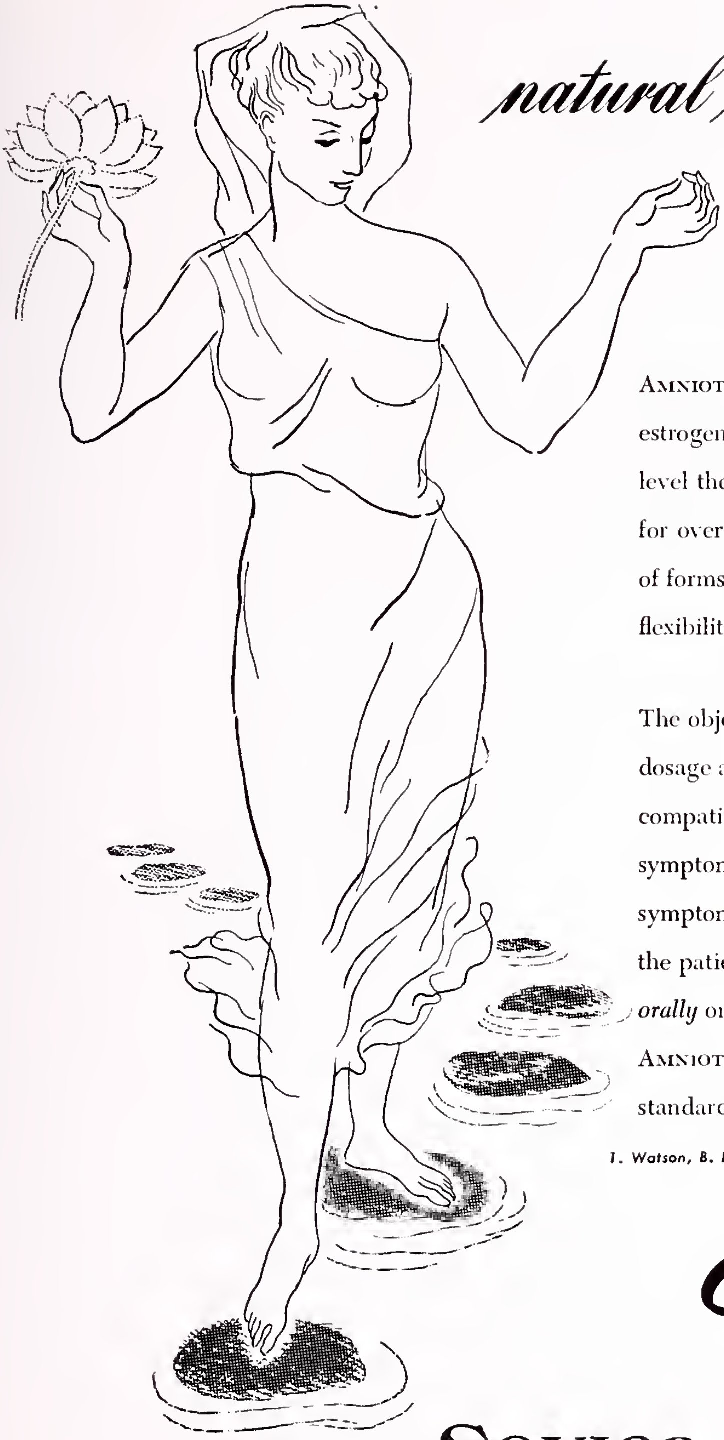

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1. Watson, B. P.: J. Clin. Endocrinology 4:571 (Dec.) 1944.

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12. DeJong, R. N. (1946), Further Observations on the Use of Tridione in the Control of Psychomotor Attacks, Am. J. Psychiatry, 103:162, September.

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 5

MAY, 1947

Per Copy, 20c
Per Year, $2.00

GOVERNOR BACON HEALTH CENTER at Delaware City

A New Approach for Rehabilitation of Children and Adults

M. A. Tarumianz, M. D.,*
Farnhurst, Del.

In October 1943 his Honor, Walter W. Bacon, Governor of Delaware, created the State Post-War Planning Commission. The Commission devoted its efforts to explore the State's post-war needs and to the preparation of a post-war program. On December 14th, 1944, the Commission submitted to the Governor a very carefully prepared report, including the essential requirements of all State agencies. (Hospitals as well as institutions.) The report was approved by the Governor and transmitted to the General Assembly of 1945 for its consideration. The Legislature considered the report very favorably, however, it deemed wise to postpone its approval until 1947. In January 1946, news of Fort duPont having been declared surplus by the Army came to the attention of the Post-War Planning Commission. After having been assured that the Veteran's Administration had made its final decision not to use the Fort duPont property for a veteran's hospital, the Governor, as President of the Post-War Planning Commission, requested the Executive Committee to proceed with the study of the Fort duPont property.

It was first planned to use Fort duPont as an annex to the Delaware State Hospital, however, this proposal was abandoned after many conferences with the various health and welfare agencies. It was deemed advisable to establish a State Health and Welfare Center, to include an eventual 600 bed institution embracing the care of children, youths, adults and the very aged.

On February 4, 1946, the State Board of Trustees of the Delaware State Hospital received a letter from Governor Bacon in which he expressed his approval of the establishment of a State Health and Welfare Center to be operated and maintained under the supervision and guidance of the State Board of Trustees of the Delaware State Hospital.

On February 21, 1946, as a first step to purchase the Fort duPont property, the president of the State Board of Trustees and the chairman of the Post-War Planning Commission with the approval of the Governor sent their first application to the United States Public Health Service citing reasons why the State of Delaware is interested in the purchase of the Fort duPont property. The State Board of Trustees presented the facts and figures that such a Center will effect the rehabilitation of 350 children and 300 adults within 10 years; and that the people of the United States and the State of Delaware will derive an estimated benefit of over 9 million dollars, based on the accepted economic value of 15,000 dollars per man. The United States Public Health Service approved our application and transmitted the same to the War Assets Administration. On April 3, 1946, an application to purchase the Fort duPont property, was sent by the President of the Board of Trustees of the Delaware State Hospital and the chairman of the Post-War Planning Commission, to the office of Real Property disposal of the War Assets Administration. The application included a brief setting forth detailed information in regard to the proposed Center. The War Assets Administration approved our application and transmitted the same to the Federal Works agency in Philadelphia. On May 2nd, the State Board of Trustees, with the approval of the Governor, sent an application to the Federal Works agency in Philadelphia requesting permit for the immediate use of the installation of Fort duPont.

On June 1st, Governor Bacon sent his appli-

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*Superintendent of Delaware State Hospital.
Superintendent of Governor Bacon Health Center.

cation to purchase the Fort duPont property to the Federal Works agency in Philadelphia. The following is the excerpt of Governor Bacon's letter:

"I, the Governor of the State of Delaware, hereby offer the purchase for the State of Delaware, the real property of Fort duPont described in your notice of sale at and for the sum of $500,000.00 subject to a discount of one hundred per cent (100%) under the provisions of paragraph 8305.12 (h) (5) of SPA Regulation 5; also all of the personal property, equipment, and supplies located thereon and therein at and for the sum of $50,000.00 subject to a discount of one hundred per cent (100 %) in accordance with provisions of SPA Regulation 5 revised. This property will be used by the State of Delaware as a state health and welfare center, outlined above.

A copy of application to the War Assets Administration for discount, as required, is attached hereto.

A certificate, stating that the Delaware State Hospital is a non-profit institution, as defined in paragraph 8305.2 (6) (4), and that the property is being acquired for health and welfare purposes, is attached hereto.

It is requested that action on this offer be expedited so that the State Board of Trustees of the Delaware State Hospital can open "The State Health and Welfare Center" as soon as possible."

On October 8, 1946, in the presence of many federal and state officials, as well as members of the State Medical Society of Delaware, Governor Bacon signed the agreement of the transfer of Fort duPont to the State of Delaware by the Public Building Administration; this agreement was a temporary procedure, until the deed of the property is prepared and presented to the State of Delaware.

Governor Bacon in accepting the property said, "I predict that within a few years, the benefit derived from this project will rank with those of our original road and school building programs and the building of our new Delaware River Bridge. This project furnishes buildings and grounds which, with a minimum of expenditure, will give to our State an ideal set-up, and bring to many benefits and opportunities denied at present, not only in our own state, but in many other communities.

It is most gratifying to know that we are transforming a plant designed entirely for war purposes to one beneficial to the health, happiness, and welfare of our state, and a place where many may be rehabilitated into useful citizens.

I urge the interest and cooperation of all Delawareans in this great undertaking, and feel assured that the betterment received by those who may use these facilities will well repay us both as a state and as individuals."

On January 30th, 1947, the transfer of the Fort duPont reservation to the State of Delaware was completed.

The Deed for the Fort duPont reservation was transferred to the State of Delaware with a definite provision that the property will provide for a period of twenty-five years, care and treatment for emotionally handicapped children, crippled children, children awaiting assignment to foster homes, children awaiting trial in the Family Court, alcoholics without psychosis, epileptics without psychosis, bed ridden senile cases, an emergency hospital unit, and any other related welfare problems, and that the veterans of both wars and their families will have priority to the service rendered by the Center.

The General Assembly at its 1947 session passed adequate bills for accepting the Fort duPont reservation and turning over the same to the State Board of Trustees of the Delaware State Hospital and authorizing them to establish the Governor Bacon Health Center, with the various departments incorporated in the agreement with the Federal Government.

The General Assembly appropriated the necessary funds for the repairs, remodeling and furnishing of some sixty-five buildings at the Center, and for maintenance and care of those who will be admitted to the Center.

The future Governor Bacon Health Center will be divided into twelve sections.

Section 1, will take care of 128 children who are either mildly or severely maladjusted or psychotic. There will also be cottages for children awaiting assignment to foster homes, which will be known as "Study Home."

There possibly will be special cottages for children awaiting trial in the Family and Juvenile Courts.

Section 2, will incorporate buildings for nurses and employes.

Section 3, will have recreational facilities, including vocational, occupational and rehabilitation shops.

Section 4, Residences for physicians.

Section 5, will be utilized for 100 men and women alcoholics without psychoses.

Section 6, the first floor of this large permanent fireproof building will be utilized for 85 crippled children, male and female, and the second floor will be utilized for 120 male and female bed ridden aged patients.

Section 7, will be utilized as a medical center which will include various laboratories, operating and orthopedic rooms, x-ray and physio-therapy division, as well as research department.

Section 8, will be utilized for 100 male and female epileptics, without psychoses, including children.

Under Section 9, there will be nine buildings which will be utilized for children and adults of the colored race, giving them the same opportunities and type of care and treatment.

Under Section 10, there will be various buildings which will be used for the utility department.

Under Section 11, there will be a special emergency hospital unit to accommodate 250 patients and 150 employes in case of a national or state disaster.

Under Section 12, Administration Department.

In addition to these 12 sections, there will be a chapel, which will be utilized for nonsectarian services by the chaplains of the Center.

The Center will have various fields for sports, parks, vegetable and flower gardens.

The Center has 320 acres of land and has an excellent outlet to the Delaware River with an already existing pier.

ROLE OF THE EMOTIONS IN DISEASE

Forrest M. Harrison, M. D.,*
Farnhurst, Del.

In all human beings there may be observed certain types of responses that are closely allied to instinctive acts. These are the emotional reactions which result from special kinds of stimuli affecting the entire organism. An emotional reaction, however, is not merely a physiological response to a stimulus. It is the reaction of an individual to a situation which impedes, facilitates, or stimulates some instinctive tendency. We recognize emotion in others by a characteristic behavior, and we are cognizant of physical changes occurring in ourselves when we are experiencing an affective state. In other words, the emotions, whether mild or strong, are always dependent upon, and are accompanied by, alterations in the physiology of the body.

There is a considerable mass of evidence, based upon pathological and experimental lesions, that the optic thalamus is the great subcortical center for certain primitive forms of the emotions, as well as visceral sensations, and the feeling tones of pleasure and pain. These are given expression in muscular movement through the rubro-spinal tract. The endocrines, especially the thyroid and adrenal glands, have a definite influence on the affective responses, but they appear to function mainly by discharging protective hormones into the circulation. The emotions serve to aid the organism in undergoing changes for driving it into a state of activity. In other words, by means of the emotions, the attention of the organism becomes focused upon some particular point in its environment, so that its energies may be coordinated for a specific purpose. Moreover, the emotions intensify the marks made by experience, with the result that upon the repetition of a stimulus, a more perfect response will be evoked in the future. It will be seen, therefore, that the emotions are related to a phase of behavior, as well as to feeling, and that they are adaptive responses. In this sense, they are of tremendous biological significance and importance to the individual.

Emotions and Functional Disorders

The trend of progress in medicine until comparatively recently has been toward the interpretation of illness in terms of tissue change. In fact, many physicians are still obsessed with the idea that they must discover an organic lesion or a defect in structure in order to satisfactorily account for disease in human beings. It is true, of course, that the causative agents disclosed by bacteriology, the illuminating contributions of the X-rays, and the brilliant achievements in the field of pathology, have added immeasurably to our knowledge of sickness in general. Moreover, the advances in these fields have been largely responsible for the many cures and specific treatments which have been introduced with such gratifying success.

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* Assistant Superintendent and Assistant Director, Mental Hygiene Clinic, Delaware State Hospital.

Since the turn of the century, however, an important change in the phenomena of disease has occurred. The seriousness of infection has been undergoing a remarkable decline. Diseases formerly regarded as plagues are now largely under control or have almost disappeared. At the same time, the emotional stresses and strains incident to the intense drive and pressure of modern life have been on the increase. This has resulted in the widespread occurrence of a large group of disorders characterized by many and varied physical complaints with no underlying pathology or disease to explain them.

This group of disorders has been termed functional disorders. They are spread thickly throughout each department of medicine and surgery, but they are particularly prevalent in the endocrine, gastro-intestinal, cardiac, gynecological, urological, and metabolic clinics. It has been conservatively estimated that from 60 to 70 per cent of the patients seen in the dispensaries of our large hospitals, and in the consulting rooms of private practitioners, excluding the acute infections, present symptoms for which no adequate organic basis can be found.

In spite of their frequency, however, functional disorders are commonly neglected, misunderstood, and improperly treated. They command interest only as long as they are considered to be diagnostic problems. As soon as it is discovered that the patient has "nothing wrong with him," as I have often heard it expressed, he is passed over lightly, no further attention is paid to him, he is labeled neurotic, and he is referred to a psychiatrist.

From a technical standpoint, most of these cases do come under the broad heading of the psycho-neuroses, but many of them do not. For practical purposes, the patient who has a functional disorder may be suffering from severe subjective sensations, due either to an increase or decrease in the physiological activities of one or more organs in the body, or to the patient suddenly becoming conscious of a normal function that usually goes unnoticed. In other words, functional disorders represent nothing more nor less than an ill-adjusted timing of the reactions of the various organs and an imbalance of their relations to one another. The ultimate causes of functional disorders are to be found, not in any gross structural changes in the different organs, but rather in the influences emanating from the emotional life of the patient, which may affect in one way or another any portion of the body.

We see evidences of the role played by the emotions in producing physical complaints and symptoms almost daily in our routine practice and ward rounds. A few examples will suffice. Instead of being due to indiscretion of diet or local irritation, vomiting may be an expression of a deeply felt disgust. Fright and anxiety often produce diarrhea and increased frequency of urination. Strongly stirred emotions may cause palpitation, tachycardia, premature beats, precordial stress, and other signs of disordered cardiac function. The flushing of embarrassment, and the blanching of fear, is proof of the effect of these emotional states upon the walls of the arteries. The respiratory system is likewise profoundly influenced by the emotions. We "catch our breath" when we experience fear, and under certain other emotional circumstances, we may breathe deeply or even develop a neurotic dyspnoea. Nervous and emotional tension often cause skin phenomena, such as urticaria, pruritis, and other dermatoses. The effects of anxiety on the central nervous system are manifested by such complaints as weakness, vertigo, numbness and tingling of the extremities, ringing in the ears, insomnia, and other signs. These examples, and many others too numerous to mention, furnish abundant proof that emotional factors have a decided influence on the physiology of the body.

It may be surmised, from what has already been said, that the symptoms of functional disorders may simulate or suggest almost every known type of physical disease. For this reason, many physicians fail to recognize functional illness and treat the patient as though he were organically diseased. Then, too, modern clinical medicine attempts to establish the diagnosis of functional disease by ruling out organic disease through medical history, physical examination, and laboratory investigation. It should be emphasized that the diagnosis of functional illness must be established on its own characteristics and not merely by the exclusion of organic disease. In other words, a functional disorder has its own distinctive features which may be brought out by a study of the physical and emotional aspects of the personality.

It will be seen from the above that it is highly important for all physicians to make, as a routine procedure, a definite inquiry into disturbing emotional factors in every medical examination. This should include a history of the mood swings, the special preoccupations, psychic trauma, sex adaptations, and other life problems that may suggest themselves in the individual case. Information thus obtained will shed considerable light on the source and purpose of any illness determined by psychological factors. In addition, it would enable the physician to discover emotional symptoms which might be superimposed on actual organic disease.

An investigation of the emotional life, for instance, may disclose the fact that the digestive disorders in a particular patient began at a time when he lost a huge sum of money, due to speculation, and that they have recurred whenever he has been in financial straits, or when there has been a marked fluctuation in the stock market. Or it may be learned that a few years ago, upon arriving home from a business trip, a patient was informed of the sudden death of a close friend from coronary occlusion. He was overcome by the shock of the news, developed an attack of precordial pain, palpitation, and tachycardia, and then promptly fainted. Consulting his physician, he was told that he did not have heart disease, and he was cautioned not to worry about it. For over a decade he has not even so much as mentioned it, but his symptoms have continued, he has greatly restricted all of his activities, and he has lived constantly with the fear that he too may pass away suddenly. Again, we may discover that the pain in the back, of which a patient complains, made its appearance when she first felt the pangs of domestic incompatibility, and they became pronounced and more acute whenever she has a dispute or argument with her husband. It is also frequently found that severe headaches develop when a patient has a disagreeable task to face, an embarrassing situation to digest, or when he is dodging something disagreeable.

The patient is usually unaware of the relation of his conflicts, tensions, and fears to the symptoms for which he seeks relief. If the physician, therefore, is not familiar with the marked influence of the emotions in the etiology and course of physical complaints, the psychic source of the ailment may remain unsuspected, and the patient may suffer from years of invalidism. These hidden emotions must be recognized if the proper rapport between the doctor and patient is to be assured. Neglect of the emotional problems that are involved in the numerous complaints of the patient by ethical practitioners is today lending aid and comfort to the cultist, and is wasting a powerful instrument of treatment.

Functional disorders really belong to the field of general medicine. It is often extremely difficult to determine whether we are dealing with an organic disease or a pure disturbance of function, and the differential diagnosis requires the broad training in the use of clinical and laboratory methods which forms the equipment of the internist. Then, too, the patients themselves not infrequently fear the stigma of any professional contact with the psychiatrist, and they prefer to go to their family physician. Certainly this attitude should not exist, but since it does, it is best to recognize it, and make the most of it. Many of the cases of functional disorders can be helped by the general practitioner without the aid of highly specialized psychologic technique, if he will but appreciate their significance and interest himself in their treatment.

Emotions May Cause Physical Disease

Not only do emotional conflicts find expression in the guise of functional disorders, but if they occur repeatedly, and if they dominate the life of the individual, it is logical to suppose that they might leave an imprint upon the tissues, and produce organic or physical disease. Let us cite a few examples of the possible relationship of psychological and emotional disturbances to alterations in structure.

The effects of the emotions and nervous strain, which tend to be greatest in the hollow organs, consist for the most part of changes in muscle tone, circulation, and secretion. Emotional conflicts, for instance, often cause a spasmodic contracture of the musculature of the stomach, and a local constriction of the terminal blood vessels. Small areas of ischemia or hemorrhagic infarction are thus produced, leaving the overlying mucosa exposed to the digestive effects of its own hyperacid juices, and rendering it more susceptible to infection. In this way, regressive, necrobiotic tissue changes may be initiated or aggravated. There is much to suggest that this is the mechanism underlying the etiology and pathology of peptic ulcer. Mucous colitis and ulcerative colitis may also be regarded as physiological expressions of some deep-seated emotional conflict. When the latter is removed, the intestinal motility returns to normal and the symptoms often promptly disappear. Acute episodes of emotional origin may hasten the development of organic heart disease, which might be indefinitely postponed in the absence of psychic stress. Clinical and pathological studies have brought to light the fact that the morbid manifestations of such an organic disease par excellence as angina pectoris appear to be controlled, to a certain extent at least, by the emotions. The relationship of psychic factors to the onset of hypertension is well known. Anxiety, fear, and sudden shock quite often bring on a frank exophthalmic goitre. We also note the apparent effect of emotional conflicts on the blood sugar level and in the genesis of diabetes mellitus, especially those which operate at the unconscious level, and which involve threats to the personal safety, security, and prestige of the individual. The occurrence of attacks of bronchial asthma is more or less conditioned by emotional factors. Chronic arthritis is another organic disease which is due largely to certain strong emotional influences causing tensions and spasms of the muscles and thus affecting the working of the joints.

As a matter of fact, we should not be too greatly concerned with the possible relationship of psychological disturbances to structural alteration. The problem of whether long continued emotional stresses can produce organic disease is rather involved and complicated. The evidence is beginning to point in this direction, but the question cannot be proved or solved at this time. It should be emphasized, however, that the emotions as etiological factors in organic disease must always be taken into consideration.

Emotional Aspects of Organic Disease

Not only do mental conflicts produce a wide variety of functional disorders, and also possibly bring about changes in structure, but the presence of organic disease invariably creates new emotional problems or else reactivates and aggravates old ones. In other words, it is now realized that practically all physical illness has associated mental and emotional aspects. The psychological concomitants of clearly established organic disease should always be recognized by the physician because of their importance in both prognosis and treatment.

Every sick person, no matter what the nature of his malady may be, shows some variation from his normal mental state. Scarcely a patient who is ill from a physical disease or after a surgical operation thinks and acts as he does in health. There may be nothing more than a group of disagreeable feelings, which require no particular attention directed to their relief. On the other hand, bodily disease of any kind may be accompanied by apprehension, which, in some instances, develops into a state of tension and anxiety with sweating, flushed face, restlessness, palpitation, and actual fear of dying. Some patients respond to their illness with gloominess, discouragement, or definite depression. Still others show distrust and become suspicious. Another response to physical illness is irritability coupled frequently with complaints by the patient concerning the nursing and medical care he is receiving. This is really a defense mechanism. Many patients who are physically ill adopt other means of psychological escape, such as refusal to accept the fact that they are sick. They may refuse to be examined or decline to take medicine or other form of treatment, insisting it is unnecessary. These emotional factors may lower the resistance of the patient, aggravate the organic pathology present, and hinder recovery. In other words, the damage suffered by the emotional life and mental health of the patient through somatic illness or disability may be more serious and permanent than are the physical results of the organic lesion.

For a long time the internist has been studying disease, and treating it, without a sufficient appreciation of just how the individual who had the disease was reacting to it. In other words, when emotional factors are associated with actual organic disease too little attention is paid to the emotional factors. This tendency needs to be corrected. The general aphorism in psychiatry, treat the patient, not the disease, may be applied with equal advantage to all branches of medicine. One or two examples of this principle will suffice. A patient who has heart disease may be disturbed much more by worry over his wife and children than he is by the dyspnoea from which he suffers, and as a result of his brooding, he may develop a long train of neurotic symptoms. In such a case, a talk with an understanding physician, who tries to make the situation clear to him, and who then has the social service department investigate and take care of his home conditions, does more to help him and straighten him out than a book full of drugs or diets. The patient who is to undergo a surgical operation for some gynecological condition may be very much concerned over the probability of success, she may be thinking of the subsequent mutilation and disfigurement that may be produced, and she may fear the loss of a vital structure or capacity. From the standpoint of the surgeon, the problem is the same as in many other cases he has had, but the whole procedure to the patient is most profound. Attention to her peculiarities and emotional reactions may not only prevent considerable shock, but may bring a favorable outcome. This is only an indication of what can be accomplished by treating the individual or emotional factors in disease. Neglect of them may make all the difference in the world in the outcome of the case, and failure to deal with them adequately will tend to prolong convalescence or encourage a reaction of invalidism.

The average clinician approaches the consideration of physical disease with far too little knowledge of its psychic antecedents and implications. The well-informed and successful physician, however, with a broad experience and point of view in the practice of medicine knows that emotional conflicts exert a tremendous influence on the etiology and prognosis of disease. A properly cultivated appreciation of this fact is as necessary to the trained internist as is a knowledge of the biochemical or physiologic changes which accompany certain diseases. It is a part of the duty of the clinician to recognize and determine by appropriate tests these latter factors in disease without calling upon the chemists and physiologists to point them out. In the same sense, it is essential to the efficiency of the practicing physician that he should be alive to the emotional and psychic elements in disease without seeking the aid of the psychiatrist. To overlook psychological factors at an early stage is just as grave an error as to fail to recognize and diagnose an infective process or surgical anomaly, a constitutional disorder, or pneumonia. The physical and mental components of the personality are so closely interwoven and interdependent that they cannot be separated. In order, therefore, for the physician fully to do his part in helping his patient to become a healthy, well-adjusted individual, he must understand the needs of the mind no less than those of the body.

OBSERVATIONS ON THE IMPORTANCE OF TIME IN THE ETIOLOGY OF PSYCHOPATHOLOGY

Edward J. Koch, M. D.,*
Farnhurst, Del.

In psychiatry, as in general medicine, chronicity of a disease process is commonly regarded as militating against complete recovery. Thus a patient who has been suffering from a severe unbroken neurosis or psychosis over a period of three or four years, or longer, has in most instances forfeited any chance of regaining his preneurotic or prepsychotic state of mind. He may be able to adjust himself to life outside of an institution and even be gainfully employed but his personality does not revert to its pristine state. There are perhaps reasons bound up in the personality and in the experience of the patient which give the cue as to why his mental disorder should follow an acute and benign course on the one hand or a chronic and malignant course on the other but these reasons are not always evident at the outset of the disorder. From a purely objective standpoint the degree of chronicity may be regarded as the measure of malignancy or irrecoverability of the disease process.

The psychiatrist is often sorely beset when asked to offer a prognosis early in the course of a mental disorder. He hesitates to predict an outcome and seeks to postpone such a pronouncement until he has had much more opportunity to observe the course that the disease follows. This is a very justifiable conservatism. He knows, in a general sense, that the seriousness of the disease is proportional to the seriousness of its causes but the absolute gravity of the causes is often impossible to appraise without detailed knowledge of the ensuing illness.

Nevertheless, it may be stated that if time or duration is an important prognostic factor as applied to the psychotic or neurotic phase of the illness, then it is equally important in considering the prepsychotic or etiological phase of the disease. Briefly, this means that any factor exerting a palpably adverse influence on a personality is important in proportion to the period of time over which it acts. Thus if an individual is obliged to devote himself to a bedfast relative over a period of one year to the exclusion of more appealing and pleasurable activity, he may show little or no reaction to the deprivation. But if his vigil continues for four or five years there has gradually been laid down the basis for a more or less serious mental disorder even though he be released from the vigil at the end of such a period. In psychiatry, days and weeks and months are not usually of great significance. But a period of years spent in non-productive, frustrating or unsuccessful strivings is calculated to take its toll either in an outright disease process or in permanent alterations of the personality structure.

The following two cases will illustrate the shattering effects of prolonged frustration: Case No. (1) Male. Age 40. First seen in 1936. History as follows: There was nothing unusual in his birth or early development other than he was of dull normal intelligence. His IQ later proved to be 85. He was reared a strict Catholic and had never missed Sunday Mass up until the time of hospitalization. He was drafted into the military service in the First World War when he was about 18 years old. He saw no overseas duty but was separated after about a year. He liked the military service very much and was particularly proud of his uniform. After demobilization he joined the American Legion and often marched in Legion parades. At age 22 he married. He went to work as a salesman of small gadgets, covered a small territory and was obliged to work very hard to provide an adequate living for himself, his wife and his increasing family. Over the years he became the father of five children. It was often necessary for him to work late Saturday night to help out the family exchequer. He had little time for recreation. Occasionally, he attended salesmen's conventions and in two instances was prevailed upon by fellow salesmen to have a "date." He did not enjoy these dates but at the same time entertained no great feelings of guilt relative to them. One Saturday night he had to work particularly late and the following Sunday morning when his wife attempted to arouse him to go to Mass he turned over and fell asleep again. Taking pity on him his wife permitted him to sleep until 10:30 in the morning even though this broke the habit of a lifetime. When she went in to awaken him again he suddenly arose up out of bed, as one sleep-walking, and without comment, he placed his hands about her throat and began to throttle her. Fortunately, she was able to emit a loud shriek, whereupon the patient seemed to regain full consciousness with little recollection of what he had done. The wife did not remonstrate with him realizing that he had been asleep. About a month later she permitted him to sleep late on another Sunday morning. She went into his room upon hearing a sudden cry from the infant son who slept in a crib next to the patient's bed. In the semi-darkened room she saw the patient, who had grasped the child by the feet, slung it over his shoulder, about to bash its head against the wall. Again she shrieked and again the patient seemed to come to full consciousness very puzzled as to what he had been doing. After a family council it was decided to send the patient to the hospital. In the hospital he showed little true remorse for what he had done and did not seem to hold himself responsible for the acts inasmuch as he had been asleep while perpetrating them. After further study of several months he was sent home but shortly thereafter he was returned to the hospital having made another attempt on the life of one of his children. Within a few days he became hallucinated and paranoid, a full-blown case of Dementia Praecox.

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* Clinical Director, Delaware State Hospital.

In this case it may be said that the patient's unconscious took over. After a slight relaxation in the rigid framework of his daily living, i. e., after his failure to attend Mass, his unconscious chose the simplest, the most primitive, and the most direct method of doing away with those long-standing impedimenta which effectively blocked his ego expressions. One might speculate that if he had not failed to attend Mass and thus weakened his armor he would have made no attempts on the lives of his wife and children. One might also speculate that had he not married at the age of twenty-two but had instead devoted more time to sowing his wild oats, such a shocking outcome might not have happened. It is important to note that with an intelligence quotient of 85 he could scarcely be expected to gain insight into his difficulties.

Case No. (2). A second lieutenant in the Army, first seen in 1944 when he was being tried by general courts martial for quadruple murder. History as follows: He was reared in respectable but very poor circumstances and had few advantages as a boy. His education had been curtailed by the necessity for going to work. Physically he was strong and handsome, and at an early age, he acquired the nickname "Buck," probably because of certain swashbuckling tendencies. He married at the age of nineteen during the depths of economic depression and was never happy with his wife. He became a shoe salesman and his best earnings were $35 per week. He became an amateur boxer, acquired considerable facility at fisticuffs, and made quite a name for himself. He was drafted into the Army in 1942, went to Officers Candidate School about a year later, and was commissioned a Second Lieutenant in the Infantry. He had always wished to command men and was looking forward to overseas duty. Nevertheless, it was necessary to transfer him to a different branch of the service because the Infantry had become overstaffed with officers. He still hoped to command men albeit that he was disappointed at being transferred out of the Infantry. In his new assignment he was training with a group of colored soldiers forming a port battalion, a job very distasteful to him. He spent many of his off-duty hours carousing and came to be regarded as a sort of Don Juan among a group of younger girls employed at his post. On one occasion he beat up a civilian police officer who had started an altercation with him in a bar, and as a result of demands on the part of the civilian police to take action against this patient, the military authorities summarily sent him overseas as a cargo security officer, an individual assignment. He languished in Karachi, India, for a period of months and lost all of his enthusiasm for overseas duty. Upon his return to this country and to his old post he resumed his carousing and became evermore intimate with the younger female members of the stenographic force. However, he soon discovered that he was to be sent overseas again with the colored troops. A few days before embarkation he and a fellow-officer, who was twenty-three years old, had Sunday afternoon dates with a nineteen-year-old girl from the office and a friend of hers of the same age. After a few rounds of drinks, while the four were sitting in an officer's club, the patient turned to his fellow-officer and asked: "Do you want to go overseas?" The fellow-officer stated that he was not particularly anxious to do so but that it was his obvious duty, whereupon the patient said quietly, "I don't think you are going overseas. In fact, I don't think you are going to leave here alive tonight." He suddenly pulled out a revolver, shot and killed both of the nineteen-year-old girls and then seriously wounded his fellow-officer. He ran out of the officer's club into his barracks where he shot and killed his commanding officer. He commandeered a staff car in an attempt to escape, was later accosted by two civilian policemen, one of whom he shot and killed before he was wounded himself. The patient later committed suicide while awaiting execution.

As in the previous case it may be speculated that this patient might never have committed such murders had not the previous eleven years of his life been spent in ego frustration. Even as a second lieutenant he was earning more money than he had ever earned in civilian life. It is interesting to note that in seeking out companions in the military service his attention fell upon younger individuals who were the same age that he was when he took the fatal step of getting married. One does not draw definite conclusions from the fact, but it is certainly interesting to note that both of the murdered female companions were exactly nineteen years old and that the patient had never seen one of these girls before the day he murdered her. The entire episode may be interpreted as a symbolic effort on the part of the patient to obliterate forever the tantalizing illusion of youth. Very probably, he would have survived twelve years of defeat without violent outcome had he not been faced with the prospect of relinquishing what was in effect a continuation of his life at age nineteen for an indefinite period of dreariness and further ego-thwarting overseas.

The following case will illustrate the importance of the duration of etiological effects in a somewhat different way. Case No. (3). Male. 20 years of age when first seen in 1938. At this time the patient was definitely schizophrenic. The history is as follows: The mother was highly neurotic and somewhat inadequate. The father, while extremely wealthy, tended to dodge his family responsibilities. One brother was subject to convulsive seizures. Patient was healthy until aged five at which time he developed serious bilateral mastoid disease necessitating prolonged bedrest and six bilateral mastoid operations in the course of the next nine years. During this period he was attended by a nurse, a governess, and a tuotor. He was unable to play with other children, and except for occasional visits with members of his family, he saw no one but the nurse, the governess and the tutor. At length, at age fourteen he had achieved good physical health without impaired hearing. Shortly after his recovery he was sent to a prep school and within a matter of weeks had developed marked paranoid tendencies, looseness of speech and apathy. He showed no improvement with prolonged insulin shock therapy.

In this case one might state that the patient was out of circulation, so to speak, during nine of the formative years of his life. He was completely out of touch with his own generation and, from a social standpoint, his personality had attained no significant development. This handicap was too much and shortly after his first introduction to his own age group malignant symptoms supervened.

The following case, revealing much less serious psychopathology is introduced again to illustrate the importance of the temporal factor in etiology. Case No. (4). Male. Age 36 when first seen in 1945. Patient was a second lieutenant in the Armed Transportation Corp., brought in for psychiatric evaluation following his apprehension by Police in Melbourne, Australia, for an open homosexual act with a merchant seaman in a public park. History as follows: There was nothing unusual in the early history until the age of thirteen at which time the patient's parents, both very strict and uncompromising with respect to sexual morality, took the boy to see an uncle who was dying of what was probably rupial syphilis. The parents told the patient that this disgusting sight was the result of the uncle's lack of discrimination in choice of female companions. The spectacle made such an impression on the patient that he resolved thereafter to have nothing to do with women, and as a result, his sexual drive found outlet through homosexual channels. As his general personality matured he began to realize the overdrawn character of his parents' admonitions and had even developed by age thirty some crushes on girls. Nevertheless, from a physical standpoint he remained homosexual in spite of efforts at heterosexual relationships.

One feels constrained to state that sexual traumata, emotional shocks, and other concrete episodes in the life of the patient have been highly overemphasized in etiology. It is granted that such an eposide produces emotional effects, but the important thing, as exemplified by this case, is that such emotional effects lose their momentum in due time. It is highly improbable that this patient's homosexuality could be altered by any psychotherapeutic or psychoanalytical approach inasmuch as homosexuality had become an ingrained habit, in this instance over a period of twenty-three years.

Every case of psychopathology has its individuality just as every personality may be differentiated from every other personality. The differentiating factors in personality are largely constitutional and are often very difficult to assess. It is experience alone which tends to throw these constitutional factors into relief. Be that as it may, a functional mental disorder is more than a resolution of constitutional tendencies. The factor of experience, or lack of it, plays an integral role in the development of the disorder, and the most important aspect of any experience is not its intensity, but rather its duration. The duration of any psychogenic influence should be thoroughly consulted before prognosis is offered.

TRENDS IN MENTAL HYGIENE

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"Tommy is a bad boy!" That taunting cry of the school grounds is a challenge to our civilization and is but one of the many problems facing us today. Tommy might be a "sissy," a "thief," or an "outcast," whatever his presenting problem, it is fundamentally one of lack of adjustment to the demands of his society and it is someone's responsibility to assist him before his behavior pattern becomes fixed or irremedial. This is a psycho-socio-educational problem and is a major field of endeavor for those engaged in Mental Hygiene.

Credit for coining the phrase "Mental Hygiene" is attributed to Clifford W. Beers who, in 1908, published his classic "A Mind That Found Itself." The book started a movement, not only for reform in mental institutions but to wage an education war and to "cure the disease (insanity) by preventing it." Thus Mental Hygiene is a rather all-inclusive program in the field of mental illness and of necessity closely related and entwined with other professions seeking the common goal of a healthy mind in a healthy body, contentedly living in a peaceful world.

The men who pioneered the early clinics were heroes in every sense, for not only did they have to develop techniques for handling problems when little was known as to causes or mechanism, but they were forced to battle public apathy and age-old superstitions about mental disease. These early clinics were not the Guidance and Therapy Centers of today. Concepts have undergone gradual transition as our knowledges have increased. Emphasis has changed as problems vary and community attitudes react to education. Now there are not sufficient personnel to supply the apparent needs. The medical profession and the public have become so aware of the effect of emotional and psychologic factors that some writers feel "too many...are seeing psychiatric disorders in perfectly normal emotional swings." (C. C. Burlingame).

To view the changes and trends within a clinic and thus by reflection viewing public attitude as well, let us consider our own State.

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In April, 1929, the General Assembly of Delaware authorized the establishment of an all-purpose Mental Hygiene Clinic under the directorship of the Superintendent of the State Hospital. The Clinic began functioning in August of that year and was organized on the still accepted principle of teams of psychiatrists, psychologists and social workers working together as a unit, with the psychiatrist correlating all the data for an understanding of the total personality.

The first annual report of this Clinic is illuminating. There is no mention of referrals from physicians or social agencies. The bulk of examinations was primarily psychometrics for school placement or determination of feeblemindedness, referred by schools or correctional institutions. As the annual reports are reviewed progressively, it is noted that examinations for retardation show a relative decrease so that now less than one percent is being referred for suspected mental deficiency.

This is significant for several reasons. First, it showed the need for a survey of intellectual status among pupils to assist in grade placement and special education. Much of this work is now being performed by the Department of Special Education and Guidance in the State and City Departments of Education. Secondly, it called our attention to the possibility of retardation of individual functions without absolute mental deficiency, yet giving the appearance of such. This phenomena is most apparent in the verbal retardations when development of language function is relatively delayed. Since language is the keystone of learning and communication, the child appears to be retarded. Much of the recent work emphasizes "handedness" and "mindedness" in relation to language development so that we may be more hopeful about the future of that function.

Juvenile delinquency has always been a social problem and is of major concern to this Clinic. In studying the earlier records, there is again noted changes in concepts. The early studies emphasized intellectual ability and due to the makeup of the psychometric examinations many delinquents of inherently average capacity were considered to be of limited intelligence and their delinquency due to their lack of comprehension. Later, it was found that many delinquents were verbally retarded, so their difficulty in learning and misbehavior were naturally linked together, a not altogether false concept. The influence of environment has apparently always been considered a potent factor, but with the trend toward psychodynamics and reactions it assumed a much greater role and today holds a prominent place in all work with delinquents. Workers in the field of delinquency do not feel that any one factor is the whole answer; the total personality i. e. hereditary factors, environmental influences, inherent psychological traits, education and organic factors all contribute to make the delinquent what he is. The child from a broken home inherits those factors from his parents which lead to the breaking up of the home. His cerebral functioning may be impaired not only by hereditary deficiencies but by disease or malnutrition in prenatal and early developmental years. His early training is deficient for numerous reasons, i. e., absence of one or the other parent, neglect by the other due to need for employment, or unsatisfactory neighborhood and recreational facilities because of the economic level. Then, too, his emotional development is distorted, not only because of the imbalance and stresses in the "broken home" but because from an early age his inherent—probably inherited personality defects make him a difficult child to cope with.

Closely related to the delinquent who comes to the attention of the Courts is the "behavior problem," the child who fails in some respects to adjust in the home or school but is not outrightly anti-social. It is the experience of most clinics that this category is being noted and referred in increasing frequency, indicating an awareness of mental health needs on the part of the community. In our experience such referrals show definite geographic localizations, revealing the need for continued community education. The ones apparently needing guidance most rarely seek it from their own volition, but upon the recommendation and sometimes urging of physicians, schools and social agencies. The better informed generally voluntarily seek assistance with adjustment problems, just as they are usually more conscientious in attending to other matters of health.

In retrospect mental hygiene appears to have developed gradually with modification of concepts as our knowledge increased. At first psychometrics and interpretation of behavior by means of measurable intellect received considerable favor. This was unsatisfactory for not only were the tests deficient in many respects but there were many variables that are not even at present measureable. Then the impact of the analytical school is noted and the relation of emotional conditioning received recognition. This gave much more insight but did not solve all the problems. Now, as Hoskins and others write, in debating the relative potency of "nature and nurture," the nurture school finds itself charged with the burden of proof. A review of the literature of today reveals evidence of studies of the effects of genetics and organic factors in deviations of personality. These report on the findings in twin studies, the personality changes following frontal lobotomy, the relation of Rh factors to mental deficiency, the abnormal electroencephalogram tracings in some personality deviations and the frequent referrals to psychosomatic medicine.

In accord with this trend, several clinics simultaneously approached the problem of hyperactive, impulsive behavior with the same basis concept, that it was organic in origin and might be related to epilepsy. In addition to further study, they began anti-convulsive therapy with some very satisfactory results. Some of the studies reveal a relation between therapeutic response and encephalographic findings; others, notably our own, are finding neurological evidence of dyskenesias, suggesting the relation of motor function immaturity with hyperactive, distractible and impulsive behavior. One might conjecture that when such findings are associated with language retardation or motor immaturity, there could be a generally immature or impaired functioning involving the relation between the frontal lobes and the hypothalmus and thus abetting anti-social behavior. Our work so far suggests this possibility, but lacks conclusive proof as laboratory evidence is not readily available. This trend may on first inspection appear pessimistic—a predestination condemning a child for his poor selection of parents. But the thought need not be fatalistic; all inherent traits are modifiable by environment and training, and perhaps by medication, a much less formidable program than the re-education and training of all parents.

Neurologists and pathologists are not the only contributors to our newer knowledge of personality. The psychologists are constantly going forward and their recent contributions have been of great assistance. The various projection techniques, such as the Rorschach or Thematic apperception tests and the analysis of psychometric test factors, such as presented by Rappaport or Jastak, give us objective leads or trends to assist in diagnosis and understanding the individual. Our experience reveals a remarkable qualitative relation between the clinical and psychological findings, though the quantitative factors appear in need of refinement.

As can be seen from the above, maladjustments and behavior problems are rather complex and no one form of therapy is self-sufficient. All available community resources are needed and must be coordinated to be effective. At the sociological level we must seek economic security for all. Slum clearance and recreational programs are a must. Interest and active participation in community activities have therapeutic, as well as social values. Our educational system has a great responsibility, for not only do our children spend a major portion of their lives under the schools' guidance, but certain intellectual defects, such as language deficits, are directly an educational problem. Education should be adapted to individual needs, not to mass production higher education of those who may not benefit.

With education and community awareness, naturally there is the opportunity for earlier recognition of mental disease and the golden chance to "nip it in the bud." This has changed some of the older diagnostic concepts so that now such terms as Schizoid Personality have become more common and the personality changes are recognizable for what they are, an early or incipient schizophrenia. Such problems are now referred for vigorous therapy and cases, which in the past proceeded to a frank psychosis, are now either hospitalized for relatively brief periods or receive electroshock on an out-patient basis. Frontal lobotomy has been used in problems of anxiety which a few years ago would have suffered in and out of institutions for lack of helpful therapeutic measures.

Drug therapy is receiving more attention and study as might be expected with the trend toward the organic. Anti-convulsant medication is being studied in relation to behavior disorders. Benzedrine and related compounds have a decided effect in the milder depressions. The vitamins, particularly the B-complex, seem to have a beneficial effect in both the anxieties and the neurasthenias. Other preparations are being studied.

Individual psychotherapy very definitely has its place but because of the shortage of personnel and the economic factors involved must be supplemented by other means. Many clinics are using group therapy and its modalities deserve further study. It is a means of utilizing the available man-power to the greatest advantage and has the additional benefit of helping the patient receive strength in the group identification and insight into their own problems by objectively viewing those of others.

That the environment plays a very important role in the modifying of inherent traits is well recognized. The committee on standards for the American Psychiatric Association recommends two to three social workers for each mental hygiene team. It is the social caseworker who, under the direction of the psychiatrist, interprets the problem in the home and environment and who, with her special training, works with the psychiatrist to modify the factors of the environment so that a compromise may be effected, assisting the patient in his adjustment.

In your clinic, the Delaware State Mental Hygiene Clinic, we are trying to carry out all the precepts of good mental hygiene. The problems are so great that no one agency can carry the burden alone. Mental health is a community problem and all agencies, schools and individuals must cooperate in a coordinated program if we are to conquer an illness which fills half the hospital beds in this country and causes economic and personal distress to many millions more.

REFLEX TREMOR

A special form of reflex dyskinesia

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According to Ford (1), four tremor types can be differentiated:

1) static tremor, rest tremor or parkinsonian tremor
2) intention, action or motor tremor
3) red nucleus tremor
4) irregular tremors.

Parkinsonian and nucleus ruber tremors are extrapyramidal in origin and differ only in that the ruber tremor is supposed to contain an intentional element in addition to the static component. They differ further in the number of vibrations or movement cycles per second (Morris, 2). Etiologically they appear more closely related than the other tremor forms and point to involvement of the brain stem. They are essentially members of the dyskinetic group of involuntary movements. As has been demonstrated by this author in another paper (3), dyskinetic movements may occasionally be abortive in appearance. They also may sometimes depend on various stimuli for their precipitation. In the latter case one is justified in assuming the existence of reactive forms of dyskinesia. In the same article it was also shown that the common maneuvers used in the elicitation of reflexes may engender dyskinetic movement responses, and thus the term reflex dyskinesia was introduced to designate the appearance of a dyskinesia in the manner of a reflex reaction.

In the case to be presented tremor appeared uniquely as a reflex phenomenon and was associated with a spontaneous dyskinesia of the choreic type.

Case study: H. C. M., a 55-year-old white man, had diabetes and high blood pressure for an unknown length of time. There was a history of a fall at an unknown date with subsequent unconsciousness lasting 15-20 minutes. From then on patient was plagued with occasional shortness of breath and choking sensations. There were frontal headaches. These headaches suddenly lessened in intensity when he developed involuntary movements in the right arm and fingers on June

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19, 1945. His mouth twitched, also, and he "could hardly drag his feet."

Neurological examination of June 29, 1945:

Movements of the head were free. There was no tenderness of the skull to pressure or tapping except at the margins of the right orbit.

Extraocular movements were normal save for a slight flickering of the eyes, but there was no nystagmus.

The pupils were regular, equal and reacted normally to light and convergence. The eyegrounds revealed normal disks, however the retinal arteries were thin and somewhat tortuous.

Facial skin sensation and corneal reflexes were normal.

There were involuntary movements of the right facial muscles with a tendency of the right mouth angle to draw upward at irregular intervals.

The tongue would usually protrude in midline and show a steady fine tremor, although occasionally it deviated grossly to one side or the other.

Movements of pillars and larynx were normal.

The deep reflexes of the upper limbs were feeble on either side. The phalangeal reflex (Mayer) was stronger on the right than on the left. There were no spastic finger signs. The right fingers were held in bayonet posture. The right arm, hand and fingers showed marked involuntary movements and the fingers were moved independently at a fairly rapid speed.

The superficial abdominal and cremasteric reflexes were not obtained.

The quadriceps reflexes were positive, somewhat stronger on the right side. The ankle jerks were moderately active on either side. The plantaris reflexes were positive and equal. There were no spontaneous dyskinetic movements of the legs or feet.

The Oppenheim maneuver on the left side was followed by flexion and intense tremor of the left toes. The same procedure on the right resulted in marked toe tremors but no other distinct movement response.

There was no evidence of contralateral reactions or synkinesias. Sensory functions appeared grossly intact for all qualities.

Gait was broad-based with occasional stumbling. There was no swaying or falling in Romberg position.

Pointing tests revealed poor co-ordination of right arm movements and past-pointing of the right hand. The right leg went through staccato movements in the heel-to-knee test, however there was no distinct ataxia.

Physical examination revealed the following findings: BP 226/160. Dilatation of heart contour to the left. Second aortic sound snapping. Many musical rales over both lungs. Prolonged exhalation. Dyspnea. Cyanosis. Edema of the back of the right hand and of both ankles.

A spinal tap was done in sitting position. Spinal fluid pressure 34/33 mm. Hg. 2 cells per cu. mm. Wassermann negative. Globulin tests normal. Hemogram essentially normal. Blood urea N. 14, blood sugar 150 mgm. Blood serology negative.

Urine: acid, specific gravity 1020, trace of albumin, no sugar.

Progress: Patient was admitted to Observation Clinic on July 17, 1945. His neurological status appeared much the same. Skull x-ray was negative. In the flat plate of chest there was marked enlargement of heart to the left, some evidence of chronic passive congestion of the lung bases, no free pleural fluid. ECG revealed left ventricular preponderance with evidence of myocardial damage. The albumin-globulin ratio was 4.1/2.0. Sedimentation rate, icterus index and Van den Bergh reaction were normal. He complained of pain in the left kidney region, apparently due to infarction. Ultimately he became confused and delirious. Patient expired August 18, 1945.

Clinical Diagnosis:

Diabetes mellitus.

Hypertensive heart disease in a state of decompensation.

Hypertensive hemorrhagic encephalopathy with hemichorea and reflex tremors.

Infarction of kidney or spleen.

Autopsy findings:

Hypertrophy and dilatation of the left side of heart with a large mural thrombus at the apex of the left ventricle. This thrombus is laid down on a large infarction resulting chiefly from thrombosis of the anterior coronary vessels. The posterior coronaries show partial occlusion and thrombosis. Slight thickening of the aortic valves. Scattered atheroma of the aorta.

Multiple organized lung infarcts and lung edema.

Massive enlargement of spleen with huge, old organized infarcts.

Pancreas and adrenals macroscopically negative.

Old organized anemic infarcts of right kidney. Small adenoma of left kidney. Skull and meninges, negative: The larger cerebral vessels are sclerotic. The superficial veins are congested. The brain tissue is edematous. In either putamen, particularly in the left, there are multiple small areas of hemorrhagic softening. The red nuclei show discrete structural changes, grossly affecting their contour in cross sections.

Correlation of clinical and neuropathological findings:

The dyskinetic movements of the spontaneous type, above described as hemichorea, may be brought into relation to the lesions in the putamen. The existence of a bilateral affection of the putamen in the presence of unilateral choreic symptoms appears difficult of explanation although a bilateral representation of extrapyramidal functions in the basal ganglia may be suggested by the pathological findings.

The reflex tremors deserve special consideration. They were evidently of the type described as red nucleus tremors, and their relation to the changes in the red nuclei is quite probable.

Whether the apparently denegerative changes in the red nuclei are dependent on the primary affection of the putamen on either side, cannot be definitely established although such relation appears anatomically plausible. According to Palmer (4), the globus pallidus receives fibers from the striatum, and pallidal cells send their axons partly into the ansa lenticularis to the lateral nucleus of the thalamus, the subthalamic nucleus and to the upper small-celled portion of the red nucleus. Mettler (5), asserts that a distinct fiber bundle, the pallido-rubral tract, links the pallidum with the mesencephalon as part of the ansa lenticularis. Riley (6) comments in his atlas on this situation in a confirmative way, however indicates the conflicting opinion of Ranson and Ranson, denying the postulation of ansa lenticularis fibers ending in the red nucleus. On the other hand, Strong and Elwyn describe pallido-rubral fibers going to the red nucleus "either directly or after a relay in the nucleus of the tegmental field or zona incerta."

Summary:

In a case of circulatory encephalopathy, reflex tremor was observed as outstanding unusual feature in association with a spontaneous hemi-choreatic dyskinesis. Reflex tremor was evaluated as another form of reflex dyskinesia, hitherto apparently not described in the literature. The clinical findings were correlated with the results of the brain autopsy, the data of macroscopic examination only being available.

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HOMOSEXUAL PROSTITUTION

A Case Report

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A nineteen-year-old white male was sent to the Delaware State Hospital to be treated for homosexuality. He was arrested for prostitution and wearing a naval uniform. The patient told the police that he felt "thrilled" pursuing "young looking men such as soldiers and sailors." The social history revealed a psychopathic behavior pattern. He comes from a poor environment in a rural district in Southern Delaware. The parents paid little attention to the home. The father was often arrested for drinking. At the age of fourteen he came to the attention of the Mental Hygiene Clinic because of truancy from school, begging and obtaining money by false pretenses. On repeated occasions he was caught collecting money for school funds, Red

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Cross, and other organizations, pretending that he was collecting the money in an official capacity whereas he kept the money for himself. At the same time he became aggressively homosexual in the class and became an annoyance to teachers and pupils. The teacher stated that his homosexuality was not of the usual type, seen in boys and girls during the puberty phase. They rather complained that he, in a most aggressive manner, pursued and persuaded boys to use him as a passive partner in regular homosexual practices. It became necessary to commit him to the Ferris Industrial School. Here, too, however, his homosexual conduct with other boys caused difficulties and he was finally placed in sleeping quarters in which he could not have contact with other boys at all. His homosexual urges became so persistent that it became practically impossible to manage him since he undermined the morale of the group of other boys. His parents took him home and attempted to interest him in a gainful occupation. Soon, however, patient was picked up by the police and placed in jail on a charge of having solicited funds for the Infantile Paralysis Campaign. He got from one trouble into another and decided to leave his home state and went to New York City. He worked around hotels and restaurants and he soon developed a commercial pattern of homosexual prostitution which he described as follows: "I like easy money and I know how to get it. I know that I am not too good looking but I am sure that I have some attraction over men because of the circles around my eyes, the way I walk and the way I look at them." He met his customers in the Times Square Area from where he took them to his hotel room. Patient emphasized that he always preferred men in uniform, men of younger age who looked well built. On many occasions he became friendly with them, accepted invitations to movies, dinners, and other pleasures. He strongly disliked drinking and he managed to stay away from taverns and bars. He contracted syphilis and developed an anal fistula. After a short period of hospitalization he neglected his illness and resumed his former activities. Finally, patient went as far as to dress himself in a Navy uniform which enabled him to go to servicemen and U. S. O. clubs. His activities with men in uniform led to his arrest.

Personality Study

Patient is of leptosome habitus, boyish in appearance. There were no significant physical findings. The blood Wassermann was strongly positive.

Patients accepted his hospitalization in a matter of fact fashion. He displayed a very eager and active disposition. Observation on the ward revealed him to be quite active, interested in working, and getting acquainted with other patients. He never seemed to be at a loss to occupy himself. Some difficulties were encountered when patient began to steal money and other objects from other patients. He showed a genuine talent to take advantage of others.

Patient is intellectually dull. He has no special interests and is completely indifferent to cultural subjects. His social concepts are crude, egocentric, and devoid of social responsibilities. He invariably uses inferior judgment in social situations, is undependable and dishonest with himself as well as with others. Patient stressed again and again that he was not sorry for any of his past experiences. He proudly disclosed that he had averaged $40.00 per week in New York, and he added that he could hardly have earned as much as a laborer. He seemed at ease during interviews and he always talked freely and in a cooperative manner. The following information was obtained from him with regard to his psychosexual development. He had his first homosexual experiences at the age of twelve. When fourteen an uncle seduced him and used him as the passive partner during a homosexual intercourse. Patient derived satisfaction from homosexual practices at an age when this is not uncommon among boys. As he grew up, however, he failed to become interested in girls. He had already discovered that he could make a living by cultivating his homosexual practices. Patient was also interviewed under the influence of intravenously injected sodium-amytal. During these sessions he gave additional information about his experiences. however, he disclosed no essentially new material. The absence of any kind of inner conflict, the incapacity to use self-criticism are malignant symptoms of psychopathic personality makeup. Motivational deficiencies are severe. He lives for the moment and does not care about the future. He is proud of his ability to attract the attention of other men. On one occasion he said: "It gives you a thrill to walk around Times Square, watch the crowds, to pick your man and make him."

Psychiatric Evaluation

It is not intended here to discuss the various psychopathological aspects of the case. A great deal has been written about the psychopathology of ordinary prostitution whereas little work has been done on the subject of homosexual prostitution. It is generally acknowledged that this type of prostitution is by no means rare and recent statistics indicate a general increase in this type of activity. Realistic appraisal of the characteristics of this particular patient indicate a rather malignant type of psychopathic personality. His failure to develop any kind of self-criticism proved to be a severe obstacle to psychotherapy. This type of psychopath is as displaced in a mental institution as in a penal institution, yet there is no other place where such a person can be placed.

In view of his youth, one may consider lobotomy as a somewhat desperate attempt to change present personality patterns. Social rehabilitation could perhaps be attempted in a re-educational type of institution where he could learn a trade as well as the fundamentals of community life.

GROUP PSYCHOTHERAPY: AN AID TO DIAGNOSIS AND TREATMENT

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Military Psychiatry during the last five years has given impetus to group psychotherapy as an aid to diagnosis and treatment of neuropsychiatric cases. Although the majority of psychiatric problems resulting from active combat did not receive nor require "deep group psychotherapy methods" according to the studies of Rome (1), the cessation of hostilities along with an influx of immature teen-agers into the army resulted in psychoneuroses which seem to respond well to the "depth techniques" practiced by Burrow (2), Schilder (3), Wender (4), and Shaskan (5). Furthermore, in view of the tremendous case load now falling upon the Veteran Mental Hygiene Clinics throughout the country it is worthwhile to examine this procedure as an effective expedient in the treatment of the psychoneuroses.

This paper deals with the use of psychoanalytic concepts in group psychotherapy in the treatment of those psychoneurotic casualties which occurred in the Philippine Theater from June through October 1946. It presents three cases out of sixty exposed to the procedure to illustrate group methods and how they may serve as an aid to diagnosis and treatment.

Method Used

The method used was similar to that used by Donald Shaskan (5) in which ten to fifteen were selected according to the provisional diagnosis obtained from a careful history and psychiatric examination. The group sessions were held for one hour daily, six days a week, for a period of four to six weeks at a maximum. The psychiatrist, as group leader, functioned in a "father-to-whole family relationship" described by Louis Wender (4). The men arranged themselves in an informal circle, were told to make themselves comfortable, smoke if they cared to, and that the group was to be looked upon as a "bull session where anything goes." The group leader then went consecutively around the group asking each man for his questions or comments. As questions were raised these were thrown back for other members of the group to answer until a "group cohesion" or interest in each other was obtained. Men were reluctant, at the outset, to discuss their intimate problems, but after the initial two or three hours together they became gregarious, spontaneous, and anxious to help themselves, as well as the other fellow, through their mental conflicts. Lecture and didactic explanations were kept at a minimum. No question was answered until the group had expressed its views on the subject. Often leading questions were asked by the leader to stimulate association of ideas and to allow spontaneous resolution of difficulties raised.

Material brought up first by the group dealt with hostility and aggression towards the army. This was accepted and handled by the leader. Gradually the men became interested in psychosomatic symptom formation, the meaning of functional disease, the significance and interpretation of dreams, the concept of the conscious and subconscious mind and more gradually brought up their individual problems.

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The general tenor of the group leader was to encourage discussion on the individual problems and to guide the group into an understanding of the mental mechanisms at work in each individual in the group. Once these mechanisms became apparent to the individual, or partially so, he was encouraged to find a sociably acceptable way of expressing his emotions, basic drives, and erstwhile unconscious feelings he now recognized as being a part of him, upon the group as a "sounding board."

Case Reports

Case I: A twenty-three year old Italian soldier first hospitalized for a possible peptic ulcer. Specific laboratory studies were negative, but subjective complaints continued and with it developed an extreme degree of agitation and resentment towards the physician in charge. Although his outward behavior was suggestive of a psychopathic personality (i. e., glaring and hostile facies, negativism and determination not to cooperate), a careful anamnesis revealed that his early preschool and adolescent history was devoid of asocial or antisocial behavior. This fact was confirmed by Red Cross Social History procedure. Furthermore, his high school adjustment had been good and his antecedent thirty months of military history had been free of unstable, unmanageable or unpredictable behavior which characterized the constitutional psychopathic inferior seen in the military service.

Group Reaction: During the first two group meetings this patient sat and glared at the leader but added nothing to the group. After the first week he laughed at those of the group who admitted an emotional disturbance. The group, in turn, became aware of his extreme resentment and called his attention to it. At this point he suddenly got up and left the group. It has been noticed in group practice that rather than to retreat from the group as this patient did, the constitutional psychopathic inferiors will deliberately attempt to break up the group by talking to other patients, coming in late, calling attention to activities occurring outside, passing cigarettes around the room at crucial intervals or during critical discussions and by spilling ash trays on the floor quite deliberately. On returning to the second week of group therapy this patient talked freely and criticized the Army Medical Corps, its "incompetence", and spoke of the many Lieutenants in its ranks not capable of handling their job. All this outburst was accepted by the group leader (a Lieutenant), much to the amazement and consternation of the patient. During the third week the individual told the group that he was the older of two siblings, that his father, once well-to-do, had never made a successful economic comeback after the market crash of 1929 and 1930. Instead, the patient was called upon to support the family. He pointed out that the family still looked to him for support which hindered his own plans for the future. From this it became apparent to him and to the other members of the group that he harbored deep seated contempt for his father and felt all authority incompetent and not dependable. Once this was understood the patient brought up quite spontaneously a recollection of how he had "deliberately" kicked a booby trap wire twenty-four months before when told by an officer to watch out for it. Fortunately no one was seriously injured, but the patient had continued to show marked anxiety whenever the word "booby trap" was mentioned or when he saw it in print. Furthermore, he was much relieved by telling the story and by the group's acceptance of his explanation of his behavior. After six weeks he saw through most of his difficulties and became adept in utilizing a keen sense of humor not heretofore appreciated by the patient as a means of getting rid of his "emotional tension." His stomach symptoms of nausea, epigastric discomfort before meals, and a squeezing sensation often associated with regurgitation after meals subsided. He was returned to duty where he continued to perform his assignments with dispatch.

Case II: A twenty-seven year old merchant seaman admitted with a history of numbness in both hands and a sharp, severe, radiating pain extending from his left subcostal area down into his abdomen. His abdominal pain was so severe that he was unable to walk, remained doubled up in his bed, and presented a rigid abdomen without rebound tenderness. Onset of symptoms occurred shortly after taking a few drinks at the Manila Seamen's Club. Past medical history revealed that he had suffered a similar attack in 1941 when he was a pilot instructor in the Army Air Corps. He had had a second attack of numbness and left sided pain in 1944 when he was studied for three months in an Army hospital. His final diagnosis at that time was "Psychoneurosis from resentment of Army authority." Several days after being discharged from the service he had his third attack. None of his symptoms fit in the pattern of an acute abdomen and it was apparent that he was exaggerating his discomfort. Complete physical, neurological and laboratory studies were negative except for hypalgesia over both arms to the elbow, following no sensory nerve distribution, and a rigid abdomen which promptly relaxed after a sterile hypodermic injection.

Group Reaction: During the first two groups this patient felt that he was not properly placed in the hospital and insisted that he had an acute surgical abdomen. After much reassurance and hearing a brief explanation of the psychosomatics of some of the other cases in the group he became quite interested in the discussion. He asked many questions about the emotional content of the mind and how it could effect physical feelings of pain and numbness. By the fifth group his symptoms had cleared entirely and he admitted that his condition must be similar to those presented in the other members of the group, but he didn't know just where his conflict lay. During the second week of therapy he suddenly sat up, suggested that he "had it", and asked if he could relate it to the group leader in a personal interview. He was permitted to do this, but encouraged to tell the group about his experience. He finally related this story before the group:

In 1938 he had hesitated for "several minutes" to make a one hundred foot dive from an embankment, into a sixty foot deep stream of water to save the life of his girl friend who was being swept into an eddy several hundred feet downstream. Although the girl was dead when he pulled her out of the eddy, he was considered a hero for having made the tremendous dive in an effort to save her life. Yet he himself felt guilty for having hesitated as long as he did before making the attempt. His attacks of numbness came in direct relationship to experiences connected with this incident. For example, in 1941 when he received a card from his mother stating that the dead girl's birthday fell on that day; in 1944 when the drowned girl's sister visited him in the Air Corps and they talked of the incident; in 1945 when the drowned girl's mother was at the patient's homecoming; and finally, in 1946, when the patient had had a drink at the Seamen's Club with the brother of the girl who had drowned, and whom he had not seen for five years.

It was after he had gotten this story out that he realized that the numbness he felt on his last admission was similar to that he felt while hesitating to make the dive on the river bank. The pain in the left costal area, he stated, was similar to that which he felt as his body hit the water after making the dive. The group accepted his story and reassured him that anyone would have hesitated before making that dive. This he had never been able to accept before, and he was very much relieved to find that the group accepted him as a hero for his effort. Perhaps the analysts would go further and say that subconsciously he wanted her to die and this was the real origin of his guilt feeling. That point-of-view is tenable, but in the interest of the patient's well-being he was encouraged to accept the group's reaction to his situation. He was returned to duty with complete understanding of the psychosomatic mechanism of his illness and was able to talk about the 1938 incident with the drowned girl's brother without any untoward symptoms.

Case III: Twenty-two year old colored soldier with three years military service prior to his admission. Gave a history of five bouts of wheezing and dyspnea. First occurred while he was under cross-fire in New Guinea in 1944. At this time he was temporarily separated from his outfit, became fearful and short of breath. Second time was after he had returned to his outfit and started thinking about how close he came to being killed. Although eligible for discharge he elected to stay in the service for an additional three years and volunteered for duty in the Southwest Pacific Theater. On ship-board, two days before landing he had his third and fourth attacks which resulted in his first hospitalization when the ship surgeon diagnosed his condition as "bronchial asthma." His sixth attack occurred some seven months after he had been on the Island. He claimed the oil smell of the tent irritated his nose and soon he was incapacitatingly dyspneic. Again he was discharged from the hospital with a diagnosis of bronchial asthma, only to be readmitted one day later with the same complaint. Careful physical examination revealed no Cushman spirals in his sputum, no chest or x-ray findings consistent with asthma, and that he was employing voluntary movement of his epiglottis to obstruct his air passage to produce the misleading wheezing sound. Under sodium amytal narcosis and with individual psychotherapy very little concerning the emotional content of this soldier's battle fears or other possible psychogenic factors was uncovered.

Group Reaction: During the second group session this patient quite suddenly started wheezing and left the group. During the remaining period of six weeks very little of his "subconscious content of thought" was revealed. However, the wheezing attacks ceased entirely. And when he was accidentally exposed to an areosal spray bomb which had often produced an attack, no symptoms developed. He was returned to duty for a trial period and a three months follow up showed him to be symptom free.

Discussion

Case I was presented to illustrate how group psychotherapy may serve as an effective method for the release of hostility which was blocking the emotional development of an aggressive personality. In the group the patient was allowed to compete with the group leader in unraveling the group problems, thereby releasing much of his hostility towards an authority figure.

Case II illustrated the element of rivalry between the members of the group and their personal desire to reach the level of improvement shown by the other members. Equally important in his case was the principle emphasized by Hadden (6) that "any symptom produced by an emotion is very real, not imagined, but since such symptoms are not associated with destruction of organ tissue they can be relieved by correction of the faulty emotional state." Three earlier attempts to aid this patient failed when the doctors unintentionally led the patient to believe they felt his symptoms were the product of his "imagination," and it was through repetition of the psychosomatic mechanism and his awareness of its function in his fellow men that Case II was better able to understand his own behavior.

Case III illustrated the value of group therapy in producing symptoms for inspection, how they come to the surface once the group touches on the personal issue involved, and in this case how with the realization that his symptoms were functional he was relieved of his disabling respiratory efforts. But a psychiatric cure was not effected and it is reasonable to assume that this type of case would develop secondary somatic symptoms.

It was also apparent, as in the studies of Simon, Holzberg, Aaron and Saxe (7), that those men exposed to the group seemed to obtain a more socialized behavior pattern after its completion and showed less resentment and hostility toward the realities of Army life and Army hospitalization.

Conclusions

1. Group psychotherapy continues to have an important place in peace time military and veteran psychiatric treatment programs.
2. The three cases presented illustrate the method and principles of group psychotherapy outlined by Wender (4), to include, group interaction, catharsis, intellectualization and patient to patient transference.
3. Group psychotherapy, while only an aid, may serve as a worthwhile prelude to further personal analysis when indicated by allowing the individual to experience the dynamic principles expounded by the analytical school under controlled conditions.

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THE OBJECTIVE MEASUREMENT OF REALITY PERCEPTIONS IN DEMENTIA PRAECOX

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The original purpose of psychometric tests has been the accurate measurement of the relatively static concept of intellectual capacity. In more recent years, numerous attempts have been made to attack by scientific means several personality traits which, because of their dynamic and variable effects on behavior, have so far eluded exact mathematical analysis and precise clinical definition. Both clinical pattern analysis and statistical factor analysis, the latter practiced chiefly in academic research centers, have, it is believed, far-reaching implications in the study of the static and dynamic qualities of human personality.

In the Mental Hygiene Number of this Journal in June, 1946, Jastak and Gordon presented evidence that a non-intellectual trait exists in each human being which may be called "verbal polarity" or just "polarity." This trait determines the language abilities of individuals, their capacity for literacy, their proficiency in reading, spelling, information, vocabulary and in all the other primarily verbal functions of cognitive and emotional expression. This trait of polarity must be considered non-intellectual, because it seems to depend on the qualitative organization of the nervous system rather than on the amount of total brain power available to the individual. It may be closely associated with the lateral orientation, the mindedness, or handedness of people. That is why it is called polarity.

Whenever a great many areas of human achievement are subjected to accurate measurement, it is found that most people are good in some areas and poor in others. The differences between the highest and lowest accomplishments are small in some people and great in others. The extent of these differences has clinical significance. For, it is usually observed that those with normal personalities have narrow dispersions of test ratings, while those with abnormal and defective personalities have wide intra-individual test discrepancies. It is also found that psychometric measures tend to vary in statistical clusters. Thus, qualitatively similar tests yield comparable quantitative patterns. These clusters, in turn, appear to be associated with definite clinical entities which are psychiatrically identifiable. While clustering of test results has been known to exist for many years, its practical meaning and its mathematical expression have never been adequately elaborated. The mentioned paper of last year was an attempt to objectify both the clinical phenomena observed in the realm of language aptitudes and the psychometric measures by which they may be properly represented.

Two preliminary steps had to be taken in order to assure a valid and meaningful analysis of test data. The first of these steps consisted of the discovery of a stable reference point from which test cluster measures in the form of deviation ratios may be computed. The average of the highest three test scores out of a much larger number of test indices proved the most valuable approach to this problem. The average of the three highest achievement scores is not just a convenient statistical technique. It has considerable psychological importance, as it is probably closely related to what may be called the individual level of maximum personality integration. In other words, it approximates the individual's level of potential native endowment. The assumption may be made that those who are close to their level of maximum mental integration have normal personalities, while those who are more or less removed from this level have abnormal personalities. Our reference point thus satisfies two criteria at one and the same time. First, it is a comparatively stable statistic and second, it has a positive relationship to intellectual potentiality and its ubiquitous but partial effect on life's adjustments in general. Being near the ceiling of one's achievement, the capacity rating accurately expresses the universally observed latency of natural brain power. This means, of course, that we may function in different things at the level of our capacity or far below it. It also means that some test clusters are closer to the top level than are others The downward deviations of several test clusters may thus be assumed to represent the dynamic or non-intellectual attributes of the personality. One of these attributes is the aforementioned polarity of man. The deviations of the verbal cluster from capacity in a large sampling of the population are uncorrelated with the capacity measure itself. In popular language, this would mean that a person of average or high average capacity may actually be less proficient in over-all verbal efficiency than is a moron. Conversely, some morons have a more substantial command of language than have some individuals of average intelligence. In this way, language aptitude may be shown to be partly independent of one's intellectual endowment.

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In the present paper, we propose to demonstrate how another dynamic trait of human psychology may be objectively measured by the use of deviation ratios from capacity level. This trait is most adequately represented by a cluster of five tests in an experimental psychometric scale which has been used in mental examinations of hospital patients in Delaware for the past four years. For the sake of comparison, we will use the same 40 patients of last year's study in the following discussion. Let us briefly review the previous findings. All 40 patients were diagnosed in psychiatric staff conferences as suffering from dementia praecox. These cases were selected for our study at random from a much larger group of patients suffering from a variety of mental illnesses. While the number of cases is relatively small, it is not believed that increasing the group to a larger number would modify the results to any significant degree.

In calculating the capacity ratings of our 40 patients, we found that they varied between the highest score of 136 and the lowest score of 64. The average capacity rating for the whole group was 99.6. Nearly fifty percent of these patients had capacity indices between 90 and 109. It is likely that the average capacity rating of our patients is comparable to the average capacity rating of the population at large. It is reasonable to assume that persons of all intellectual levels fall prey to the disease known as dementia praecox. All levels of education are represented in our group, from college down to third grade schooling. In the past, it has been difficult to adduce psychometric evidence that psychotics are no less intelligent than are so-called normal people because of the effect of the disease process on some tests and because of the inclusion of these "contaminated" tests in the final intelligence quotients. But when the non-intellectual effects of the psychosis are eliminated from the results by psychologically differentiated procedures, the average patient who succumbs to dementia praecox is found to be as intelligent as is any non-psychotic group of similar age. Furthermore, it is probable that the various subgroups of dementia praecox—catatonic, paranoid, simple and hebephrenic—do not show material differences in level of intellect. At least, we have found no significant differences between them when they were grouped according to type.

The second trait assayed and described in last year's paper was the already mentioned polarity of the mind. Polarity is best measured by the following five tests: vocabulary, reading, information, analogies and comprehension. The arithmetical calculations are as follows: The standard scores of these five tests are arranged in order from the highest to the lowest. The three median scores are then averaged and the resulting average is divided by the capacity score of each patient. To make this deviation ratio comparable, the corresponding standard score is found for it in a master table of deviation ratios obtained from a group of over 400 normal individuals. When this was done for all 40 patients, it was found that the polarity standard scores ranged from 56 to 130. The average polarity score for the whole group was 99.1. On the basis of these results, it was concluded that there is no appreciable difference between schizophrenic patients and normal individuals in the distribution of polarity scores. In the clinical sense this would mean that as many schizophrenics are below and above the average deviation ratio in verbal polarity as are people generally. Thus, the trait of polarity does not offer any definite opportunity for differentiating between those who suffer from dementia praecox and those who do not suffer from the disease. Here again, the scores of the various subgroups failed to yield significant differences. The catatonic, paranoid, simple and hebephrenic types are equally verbal or non-verbal in their make-ups.

An important by-product of the polarity study is the refutation of the practice of using verbal tests as capacity indices from which efficiency quotients are calculated to measure the severity of the psychosis. We find that the vocabulary scores of many of our patients are far below the level of their capacity and therefore, if used as capacity indices as in the Babcock system of interpretation, may seriously misrepresent the degree and nature of mental disorganization present.

Emotional and cognitive dysfunctioning may be measured with relative ease by our method of deviation ratios from capacity. The notion of mental dysfunctioning is by no means an homogeneous one. There are probably several types as well as many degrees of disorganization. We are here chiefly interested in the disturbances of reality perceptions. Unrealistic thoughts and feelings leave an undeniable mark on psychometric tests. Failure in life and on tests has a multiplicity of causes within the individual or outside of him. Three of the inherent causes of failure are lack of intellectual capacity, unfavorable verbal polarity and breaks in the emotional and cognitive contacts with reality. The last of these conditions is especially prevalent among schizophrenic patients. The imperceptions and autistic interpretations of the world by these patients lead to psychometric deficiencies which are distinguishable from failures due to other causes. The method of choice in the measurement of different types of failures is the deviation ratio of a test cluster from the level of maximum integration. With the help of factor analysis, it has been found that the tests most sensitive to contact disturbances are comprehension, picture anomalies, picture reasoning, drawings and form boards. The deviations of the scores of these tests from the capacity score are positively correlated with one another. Hence, they may be thought of as measuring a comparatively homogeneous dynamic trait of the personality called orthotude. Orthotude may be clinically defined as the relevance of mental adjustments. It is the tendency of a person to do the right things at the right time in the right place.

Individual orthotude scores are calculated in a manner identical with that of all other dynamic traits. The standard scores of the five tests of the cluster are arranged in order of their size from highest to lowest. The median three scores are then averaged. The average is divided by the capacity score and the corresponding standard score is found in a master table of deviation ratios.

The range of orthotude scores for our 40 patients varies from a low of 29 to a high of 121. The average orthotude score for the whole group is 64.3. Whereas 28 of our cases had capacity and polarity ratings above 90, only 5 of them have orthotude ratings above 90. More than half (N=24) of the group have orthotude scores below 70. The average orthotude scores are defective at all levels of native capacity and at all levels of verbal polarity. For comparison's sake, the distributions of the capacity, polarity, and orthotude quotients are listed in Table I.

Table 1. The Distribution of Capacity, Polarity, and Orthotude Scores of 40 Patients of Dementia Praecox

Standard	Capacity		Polarity		Orthotude	
Scores	N	%	N	%	N	%
130 & above	3	7.5	1	2.5	0	0.
110 - 129	8	20.0	11	27.5	1	2.5
90 - 109	17	42.5	16	40.0	4	10.0
70 - 39	10	25.0	9	22.5	11	27.5
50 - 69	2	5.0	3	7.5	10	25.0
49 & below	0	0.0	0	0.0	14	35.0

It follows from Table I that those who suffer from dementia praecox do not significantly differ from the population at large in intellectual capacity or in verbal polarity. The scores in these two traits tend to distribute themselves normally in the patients as well as in the control group. On the other hand, the orthotude scores, reflecting the accuracy of reality perceptions, register substantial differences between the normal control group and our group of 40 patients. The distribution of the orthotude scores of the patients is markedly skewed and thus provides a simple and clear-cut differentiating sign between normal and schizophrenic individuals. There is also considerable agreement between psychiatric diagnosis and psychometric measures. Only three of our patients were said to be normal in their contacts with reality. These three exceptions were not, however, normal individuals. They displayed distinct inferiorities in other measurable psychometric traits. Whenever there is disagreement between psychiatric impressions and psychometric measurements, either one or both of the two comparative criteria may be at fault. Either the clinical diagnosis is not wholly accurate or else the psychometric tests used do not fully demonstrate the nature or degree of the observed disturbances. Discrepancies between clinical diagnosis and psychometric measures rarely occur in typical cases of dementia praecox. Atypical cases merit closer study both from the psychiatric and psychometric angles. Their unrealistic behavior is usually found to be more benign than in those in which definite disorganization in reality contacts can be psychometrically demonstrated. However, their persistent maladjustments and severe emotional difficulties may be attributable to other factors than those associated with dementia praecox.

The trait of orthotude as measured by psychometric methods is relatively independent of other psychometric traits. In a random group of normal individuals the capacity scores are uncorrelated with any of the dynamic traits such as polarity and orthotude. Furthermore, there is zero correlation between the dynamic traits themselves. One of the features of the capacity score is that it is less variable and therefore more constant than are the scores of dynamic traits. The latter are subject to decline and subsequent restoration depending on the personality changes which occur as a result of disorganizing factors or as a result of medical treatment and psychotherapy. It is these changes which are responsible for the fluctuations in the traditional intelligence quotient. Global intelligence quotients are averages of several psychologically incompatible traits. Their increases and declines do not, as is sometimes believed, indicate a decline or rise in intelligence. Instead, the observed changes in either direction are the results of the variable deviation from capacity of a number of dynamic personality qualities which may be shown to be independent of native capacity. The dynamics of the personality determine the degree and efficiency with which the existing brain power is utilized. Two instances of the questionable interpretation of traditional intelligence quotients may be mentioned here. The now famous Iowa studies of several years ago tended to show that children placed in foster-homes improved in their "intelligence." More recently, it was demonstrated that epileptic or epileptoid children treated with glutamic acid improved in their "intelligence." It is true that some of these children obtained higher I. Q.'s after foster-home placement and after treatment with glutamic acid than they did before. But whether these rising I. Q.'s are a sign of changing intelligence, is a different matter. For it could be easily demonstrated that the changes brought about by foster-homes or by glutamic acid are not changes in native capacity but in the use of the capacity that was present before placement or before medical treatment. Indeed, when the results of psychometric examinations are scientifically interpreted, the degree of expected improvement can actually be predicted. The child whose I. Q. rises from 85 to 125 following glutamic acid therapy was of superior intelligence to begin with. His superiority remained undiscovered by the examiner because of the use of unscientific methods of mental examinations. In the light of modern researches in psychometrics, upward or downward changes in psychometric scores may be the result of organizing or disorganizing changes in the personality which have a direct effect on certain test clusters. These test clusters reflect the dynamic fluctuations within the personality and have little or no relation to intelligence objectively measured and defined. That foster-home placement and glutamic acid are capable of raising a person's intellectual potentiality is a wholly unjustifiable conclusion. A moron so diagnosed by truly scientific means will not become average in intelligence no matter how good his home environment is and no matter how much glutamic acid he consumes. Many schizoid and epileptoid children are classified as deficient in native endowment when they are actually average or even superior. When treatment improves their personalities, they are said to grow in "intelligence." It is implied that glutamic acid is capable of growing gray matter. In reality, the widely publicized and misleading claims about the effect of glutamic acid and foster-home training upon intelligence are nothing more than an accumulation of diagnostic errors.

It must be emphasized that our concept of orthotude, as measured by the test cluster previously discussed, is only relatively homogeneous. Different tests of the cluster measure different aspects of reality perceptions which may yield important intra-cluster differentiations in future studies. Reality perceptions may be dimmed and distorted in a variety of psychiatric conditions. Paranoid conditions, manic-depressive psychoses, some neuroses, and several organic conditions may be associated with severe breaks in the patient's relationships with the surroundings. The trait is phenomenologically homogeneous at the psychic level but etiologically heterogeneous in so far as different causes may precipitate the same factorial patterns. Sensorial clouding and a raised threshold of consciousness will invariably lead to grave impairment of objective observation and sensible interpretation of mental experiences regardless of whether the psychiatric condition is a functional or an organic one. However, when enough tests are available and when the analysis of these tests is an accurate one, the intra-test patterns may be helpful in separating the differential effects of different conditions.

One interesting point in the objective analysis of psychometric data is the possibility of measuring several traits by one and the same test. For example, our comprehension test may be involved in the measurement of capacity, verbal polarity, and orthotude. A highly selective analysis of psychometric patterns will show this to be true of all single tests. Since the traits simultaneously measured by mental tests are general attributes of the personality, it is only natural that each such trait should express itself through the medium of each test. The influence of any trait is variable in each case and in each test. Therefore, the most advanced method of personality analysis is a strictly individual and a highly differentiated process. The purpose of future psychometric research will not be the decision whether a test measures intelligence or not but the exact determination of the extent to which it measures intelligence and all the other dynamic factors of the personality still to be isolated, defined, and measured.

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THE COMMUNITY AND THE SOCIAL WORKER

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We are living in an alphabetical age. L. S. M. F. T. The radio has made L. S. M. F. T. a familiar sound in almost every home and whether or not we listen to the program, we have learned that L. S. M. F. T. stands for Lucky Strike Means Fine Tobacco and that A. B. C. stands for A—Always Milder, B—Better Tasting, C—Cooler Smoking. Always Buy Chesterfields. Were you to hear the letters S. W. and S. C. W. would you associate them with Social Worker and Social Case Worker or be able to define these terms as related to work in your community?

The tragic shooting of Ruth Reinecke, a State Board of Welfare Worker last September shocked social workers into awareness of how little the community understands social work. One must have some knowledge of social work to understand what a social worker is. We social workers have been at fault in assuming that the community either understood our work or that it didn't matter and we in this state have failed in our responsibility in that we have neglected to take the community into our confidence regarding our aims and responsibilities. We have forgotten that we cannot carry on good sound social case work without the understanding and assistance of the community and its resources. We may have new ideas, some of which are not tried and tested, and feel equipped to function in spite of the community, but we will soon be set back on our heels, and rightly so, till we learn that we can go only as fast as the community can accept our thinking and planning and that we must have community participation if we are to succeed.

MEDICINE AND SOCIAL WORK

In the early days of medicine doctors were confronted with skepticism and superstition when they prescribed new forms of treatment, i. e. it was years before the work of Louis Pasteur was recognized and vaccination against rabies, tetanus, etc., generally accepted.

The role of the social worker is less dramatic than that of the doctor and is characterized by patience, persistence and ability to wait for the frequently slow development of results such as change in environment or personality. The social worker must understand the community; its cultural pattern, social development, and awareness of social and economic change, and be able to use all available resources in the community, particularly social, economic, health and religious. The social worker is accountable to the client and the community and it is her responsibility to put the client in touch with the resources of the community and give the help if necessary to use them. As the problems are modified by factors in the community so the social worker must change her approach in terms of social or economic aims. Economic well-being and social behavior are interrelated.

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* Chief Psychiatric Social Worker, Mental Hygiene Clinic.

The doctor teaches the diabetic how to handle his own treatment and live with his disability; so the social worker helps individuals or families adjust to their problems, and if insuperable, to live with them. There are times when it becomes a social worker's responsibility to adjust the problems. This may mean teaching the need for developing new resources such as supervised recreation, playgrounds, or other community activities for adults and children; in other words promoting the welfare of the individual.

Rural Social Work Scope

Social work has always been an employed profession and very largely by public agencies. Much of the social work in Delaware is rural, but it differs from that in urban communities not at all in aims and objectives, but these are sometimes more difficult to achieve because of lack of community resources, which makes it all the more important that the social worker know her community. One thing a rural social worker needs to learn early is that public opinion and community pressures are forces to be considered; that a criticism is not to be brushed aside or ignored but used as an opportunity for interpretation and education of agency policy or individual case work.

Exploring Resources

All public agencies must investigate financial as well as other resources. Sometimes this is questioned in connection with psychiatric social work, but we frequently find that economic strain is a large factor in the individual's problem and until it is relieved, little can be accomplished in therapy. Granted, the case work approach is more businesslike in public welfare. Resources are often in a state of flux and rarely a permanent source of income so there must be very frequent checking. The client should be told this and the social worker's objectiveness can make it easier to take, but one must watch that the greater resistance is not in the worker rather than the client. This investigation must not become stereotyped, and sometimes income tax receipts, bank accounts, police records, death benefits, etc., must be investigated without the client's consent. A very destructive relationship is built up with the client and other members of the family and the community if hidden resources are not uncovered.

The client's application for any kind of assistance is a very important decision for him to make. This should be made clear to him in the initial interview, and if he should go to another agency because of his particular needs, this should be carefully planned with the client so that he will not feel he can shop around from one agency to another till he gets what he wants. When this happens the children become conscious of the fact that this is the way you get what you want. The children in the family are the citizens of our coming community; we have a responsibility in training them. They are aware of the needs in the home and can just as easily learn the necessity for careful evaluation of these needs when application for assistance is made, as to learn to shop around and to misrepresent so as to get the most aid. The agency needs to discharge its responsibility to the client, but must not lose sight of the fact that it is accountable to the community.

If the client finds the agency accepts his deception month after month, the children in the family will learn by example to practice deceit and that it is not necessary to report changing resources. When denied income is found, it may be necessary and constructive to prosecute if restitution is not made. This type of investigation is not "snooping" as some uninformed people like to call it, but a necessary part of the study. It may go hand in hand with planned treatment, for plans must be flexible and readily changed as circumstances change.

However, one should not consider the financial investigation alone and lose sight of the client as an individual. Frequently the social and emotional problems are even more important but are subjective and we do not always realize when we have uncovered resources or great emotional needs unless we make a study of person-to-person relationships. A social case has been called a "Living Event" in which there are always physical, mental, emotional, economic and social factors in varying degrees. A well trained eye and ear can become astonishingly accurate in catching the emotional tones and the environmental factors.

Interpret Client's Needs

As the doctor is inside the hospital looking out so the social worker is on the outside looking in. All doctors have been trained to take a case history but the psychiatric social worker is oriented to medicine and psychiatry to supplement and fill in gaps by getting not only a knowledge of the present problem or experiences bringing client to clinic, but knowledge of early experiences, illness, economic status, family and group relationships as they throw light on understanding the individual.

We believe that the study and treatment of these emotional, educational, and conduct disorders will be successful in preventing more serious problems in later life and that the use of the combined knowledge of causation and treatment by the psychiatrist, psychologist and psychiatric social worker assists the individual in making a better social adjustment to his total environment. The social worker plays an important role in treatment after the Mental Hygiene Clinic study, in interpreting the client's needs to the family, school, employer, community and frequently enlisting their cooperation in carrying out recommendations particularly when a client is sensitive about his disability. An understanding attitude on the part of the community can be a big factor in his rehabilitation. The interpretation to the community of a client's needs may be very difficult. The community is not always in agreement and it may require a great deal of patience and understanding on the social worker's part to accomplish this. We are all guilty at times of consulting physicians and then not taking the medicine as prescribed or carrying out their recommendations so we cannot always blame the community. Again let me emphasize the need for education through community understanding and participation. Our committees and board members have easier access to the community than the social workers as they are a part of the community and they can do much to promote better understanding. A social worker may serve a large area and so not be considered a member of individual communities in the area.

If the social worker goes about complaining about her co-workers or conditions in her agency, these gripes may be misconstrued by the public who feel that the client must suffer if the worker suffers. If she is irritated, hurried or too superior to explain diagnosis or agency plans in simple terms to a lay person, she cannot expect cooperation or respect for position in return. Sound training and years of experience and a well integrated personality are needed to make quick and accurate evaluations.

Professional Ethics

A cooperative case is one in which planned treatment is carried on simultaneously by two or more agencies, for example, the Board of Health and the Mental Hygiene Clinic may be treating members of the same family or the Mental Hygiene Clinic treating a problem child in a family receiving relief. Cases must always be cleared with Social Service Exchange before treated to learn what other agencies may be active. This is professional courtesy but it does not mean that only one social worker may "practice" in the home as does professional courtesy in medicine. There must be one focus for treatment, however, and there should be case conferences between all interested agencies so that there is no duplication of effort. These conferences may be very interesting to the workers but time consuming and unproductive unless carefully planned. In these conferences members from organizations in the community that might assist in some way with social treatment should be included to widen community participation.

Social Work Defined

Now can you define social work or social

(Concluded on Page 106)

pyribenzamine

PYRIBENZAMINE, the new Ciba antihistaminic and anti-allergic, is proving highly useful in relieving the symptoms of a wide range of allergies. Medical reports in impressive numbers show favorable clinical results in urticaria, seasonal and non-seasonal rhinitis, pruritus, and other allergic manifestations. For practical purposes Pyribenzamine can be regarded as giving a comparatively low frequency and intensity of side reactions. This permits tolerance of larger doses and enables the physician to obtain results where smaller doses are not effective.*

*Feinberg, S. M.: J.A.M.A., 132: 702 (Nov. 23) 1946.

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+ *Editorial* +

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822 North American Building
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Subscription price: $2.00 per annum, in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

VOL. 19 MAY, 1947 No. 5

AT LAST

More than half a million men, women and children are in need of medical care in this country because of some type of psychiatric problem. This is the largest single medical problem in our country. At the present time the medical profession is not prepared to solve it. The immediate reason for this unpreparedness is the great shortage of psychiatrists. It is doubtful that we shall have sufficient competent personnel within the next decade to provide adequate care and treatment for the majority of those whose illnesses are emotional in origin. Our hope for its solution lies in obtaining the interest and support of every citizen throughout the country. This will require an extensive program of education, on a similar scale as cancer, infantile paralysis and other forms of illnesses. To this end a year ago "The Psychiatric Foundation" was established with the approval of the American Psychiatric Association and the American Neurological Association. In addition to the program of public education "The Psychiatric Foundation" will support scientific plans to reduce the incidence of mental illness; will assist in establishing mental hygiene clinics to every community; and it will promote special hospital facilities for the treatment of children whose emotional disorders are so severe that they cannot be treated in their homes. It will encourage and assist medical schools in establishing adequate departments of psychiatry. It will promote psychiatric research work in various hospitals throughout the country. The Foundation will attempt to acquire and distribute funds for research in psychiatric problems.

In December 1946 the council of the American Psychiatric Association applied to the Psychiatric Foundation for a grant of $10,000 for preparing the final draft of the form for hospital inspection and rating as well as a manual for hospital standardization. The council also applied for a grant of $70,000 a year for three years to defray the expenses involved in the actual inspection of mental hospitals. The Psychiatric Foundation has allocated $10,000 as requested and tentatively provided an expenditure of $70,000 a year for actual inspecting and rating. The American Psychiatric Association will create a board for inspecting and rating of mental hospitals.

The Psychiatric Foundation has announced the main objectives of its program for this coming year.

1. The project of public education,
2. The project of inspecting and rating of mental hospitals,
3. The project of medical education,
4. The project of clinics,
5. The project of research.

The total project's budget is $220,000 and $65,000 for the operating expenses for the fiscal year.

We wish to congratulate the Psychiatric Foundation for its excellent program and wise decision as how to overcome the serious existing obstacles in psychiatry.

We can assure the board of directors of the Psychiatric Foundation that the medical profession of the state of Delaware will support the high principles, expressed in the program of the Foundation. We recognize the fact that a vast majority of our citizens are in need of psychiatric help.

THE COMMUNITY AND THE SOCIAL WORKER

(Concluded from Page 104)

case worker? Unfortunately we have no short definition and no descriptive term like lawyer, pediatrician, obstetrician, osteopath, butcher or baker. The following are some accepted definitions:

"Social case work consists of those processes which develop personality through adjustments consciously effected, individual by individual, between men and their social environment."

Social case work denotes a specific process through which an expert service is rendered to develop within the individual his fullest capacity for self maintenance and at the same time to assist him in establishing for himself an environment which will be as favorable as may be to his powers and limitations.

MISCELLANEOUS

The Psychiatric Seminar, composed of 10 sessions, under the auspices of Dr. M. A. Tarumianz, started on Monday, May 26, 1947, in the auditorium of the Delaware State Hospital. The following is the program:

Monday, May 26th, from 7:15 to 9 P. M.

Classification and Terminology—Dr. Kenneth E. Appel, Assistant Professor of Psychiatry, School of Medicine, University of Pa.

Tuesday, May 27th, from 7:15 to 9 P. M.

Neurosurgery—Dr. Francis C. Grant, Professor of Neurosurgery, School of Medicine, University of Pa.

Thursday, May 29th, from 7:15 to 9:15 P. M.

Psychotherapy—Dr. Kenneth E. Appel.

Monday, June 2nd, from 7:15 to 9:15 P. M.

Modern Concepts of Etiology in Psychiatry—Dr. E. A. Strecker, Professor of Psychiatry, School of Medicine, University of Pa.

Thursday, June 5th, from 7:15 to 9:30 P. M.

Clinical Neurology—Dr. Bernard J. Alpers, Professor of Neurology of Jefferson Medical College.

Monday, June 9th from 7:15 to 9:15 P. M.

Psychotherapy—Dr. Kenneth E. Appel.

Thursday, June 12th from 7:15 to 9:15 P. M.

Insulin Shock Therapy—Dr. L. T. Shurley.

Monday, June 16th, from 7:15 to 9 P. M.

Electro Shock Therapy—Dr. W. C. Wermuth.

AEROSINUSITIS

If you ever fly in an airplane at 18,000 feet or more and experience a sudden, sharp pain above either eye, something akin to a bee sting, it is very likely that you are suffering from aerosinusitis—a comparatively new word in the medical lexicon.

Aerosinusitis is an acute or chronic inflammation of one or more of the nasal accessory sinuses produced by pressure difference between the air inside the sinus and that of the surrounding atmosphere. It is commonly characterized by congestion and inflammation of the lining structures. Pain over the area of the sinuses is usually present.

Writing in the current issue of the *American Journal of Roentgenology*, Capt. John A. Cocke, formerly of the Army Medical Corps, says that from his experience in a general hospital in the European theater he believes the condition is more common than most flight surgeons realize. Dr. Cocke, who is connected with the University of Pennsylvania Hospital, Philadelphia, tells how x-rays are used to help in diagnosing the condition.

Here is what happens when a patient suffers from aerosinusitis in flight:

At high altitude the barometric pressure falls, and air escapes from the ostium (small opening) of the sinus. Where there is no infected material in the nasal cavity and no blockage, air re-enters the sinus and no pathologic condition results. But if there is infected material in the nasal cavity, often experienced after a cold, it is forced into the sinus by the increasing atmospheric pressure as the plane descends. Usually this phenomenon takes place without pain or other sensation but it represents a mechanism by which an uninfected sinus under certain circumstances may become infected. The trouble really begins when the nasal ostium of the sinus becomes covered by inflamed mucosa or redundant tissue, forming a ball-valve blockage, so that air cannot re-enter the sinus. This nearly always occurs when the plane descends. The air or gaseous contents of the sinus cavity are trapped.

This condition, says Dr. Cocke, may be labeled first degree obstructive aerosinusitis, and is characterized by only slight, if any, pain and usually insufficient symptoms to come to the attention of a physician. Second degree obstructive aerosinusitis produces definite symptoms and findings. Pain and sensitiveness over the sinus are present and remain sometimes as long as seven days after descent. Third degree aerosinusitis is the most severe. The differential pressure necessary to produce such a condition must be relatively great—18,000 feet or more. There is extensive swelling of the lining membranes, often accompanied by seepage of blood into the sinus cavity. The pain over and about the affected sinus is excruciating and the sensation is often described as resembling a bee sting. Recovery takes from seven to 21 days.

"A point of interest in third degree aerosinusitis," says Dr. Cocke, "is that rapid descent is not necessary for the production of hemorrhage in the sinus. All our cases occurred in crews of heavy bombers and these planes usually descend slowly."

Dr. Cocke says that the patients' outlook is usually fairly good. "We have diagnosed over 30 cases of third degree aerosinusitis by x-ray findings and only three cases were not returned to flying status during the period they were followed."

Little has been written relative to diagnosis, clinical course or treatment of aerosinusitis, but with the great increase in aerial transport and the widespread use of low pressure chambers for the indoctrination of flying personnel, medical investigators are giving more attention to the condition.

Only a few cases of army fliers with symptoms of aerosinusitis have been reported in medical literature.

In February, 1943, at Randolph Field, Texas, a young lieutenant first experienced symptoms while descending from 5,500 feet. He previously had engaged in violent acrobatics at altitudes ranging from 7,000 to 10,000 feet.

"During the let-down, he suddenly developed a sensation as if a bee had stung him just above his right eye," the case report says. "The impression was so distinct that he was surprised when his hand did not encounter an insect in the area, and to make certain he checked the lining of his helmet for any rough surface which might have produced the sensation. The aircraft was leved off and then descent was continued more slowly. The stinging sensation then became a localized pain, extending laterally along the region of the eyebrow and then to the lower rim of the orbit. By the time ground level was reached the pain had become very acute."

X-ray examination disclosed "a localized dome-shaped swelling of the mucosa of the right frontal sinus."

The lieutenant was grounded for one day and subsequently flew at low levels. The aching sensation along the left eye continued for about three days.

Doctors In Event of War

A national service bill that would require all doctors to serve the government in some capacity in the armed forces or in civilian communities in the event of another national emergency has been proposed by physicians who recently were surveyed as to their opinions by the American Medical Association.

Approximately 5,000 questionnaires were sent to physicians, selected at random, who were in civilian practice during the war, by the Committee on National Emergency Service of the A. M. A., of which Dr. Edward L. Bortz, Philadelphia, president of the association, is chairman. The questionnaire provided an opportunity for those who were responsible for civilian care in those years to indicate what changes should be made in the mobilization of medical service in future emergencies.

Frank G. Dickinson, Ph. D., Director of the Bureau of Medical Economic Research of the A. M. A., presents an analysis of 2,322 answering questionnaires in the May 24 issue of *The Journal.*

More than three-fourths of the physicians indicated that in the event of another national emergency, a board representing the medical profession should be empowered to set the policy for the utilization of all physicians. The overwhelming majority of those favoring this policy said that this board should set the policy for the utilization of both military and civilian physicians.

Approximately 60 per cent of the doctors also voted their agreement to a national service bill that would require all physicians to serve the government in some capacity in the armed forces or in civilian communities.

Other results of the survey indicated that:

68.3 per cent of the doctors believe that all qualified civilian physicians should be required to serve in rotation on Selective Service Boards in their communities in the event of another national emergency.

65.6 per cent of the physicians feel that if more doctors had been released from their communities for military service it would have endangered the welfare of the civilian population.

55.8 per cent of the doctors believe that the community could not have been served in a reasonably adequate manner if there had been a large scale epidemic; 44.8 gave as one reason the insufficient number of physicians; 46.9 per cent gave an insufficient number of nurses as the reason; 7.9 gave inadequate supply of commonly used drugs and equipment and 6.8 per cent gave insufficient hospital facilities as the reason.

53.3 per cent think that civilian nursing and technical personnel was unduly and dangerously reduced by induction into the armed forces.

This cross section of physicians also indicated that they treated 76 per cent more patients in 1944 than in 1941 and were called on during this period to see approximately three-fourths more patients.

Dr. Dickinson feels that it is significant that 80.8 per cent of the physicians favor the formation of mobile civilian medical teams to supply areas stricken by epidemics and atomic or bacteriologic warfare. "It seems clear," states the author, "that if 81 per cent of the doctors are willing to support the formation of mobile civilian medical teams they are certainly aware that in the next war the task of taking care of civilians 'after the storm' may be a greater medical problem than the medical care of military personnel. The vote on this question clearly indicates that the civilian doctors of America are aware of the serious implication of possible atomic and bacteriologic warfare."

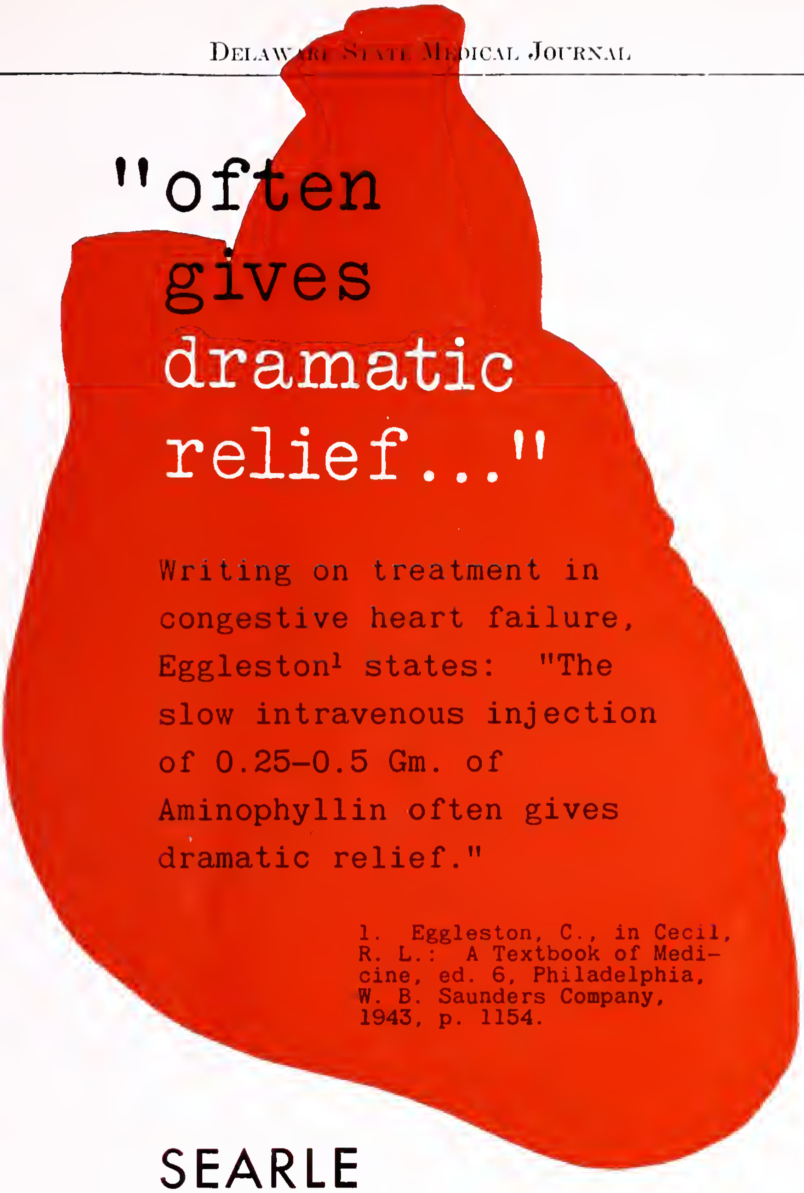
A series of questions asking the physician to state his opinion as to which of the listed civilian services were unnecessarily depleted in his community were checked as follows: 46.1 per cent checked hospital facilities as being unnecessarily depleted, 34.4 per cent checked private practice, 12.4 per cent checked medical education, 6.5 per cent checked possible public health, 2.7 per cent checked industrial medicine and one per cent wrote "Nursing" in the blank for Other.

The single flaw in the remarkable progress in the control of tuberculosis in the United States is the fact that the disease is still a major cause of death, killing more Americans than all other infectious and parasitic diseases combined. In spite of a constant search for drugs to effect a lasting cure, no substance has been found that is completely satisfactory. Various sulfonamides, although capable of modifying the disease in experimental animals, have proved too toxic for continuous use in human patients, and streptomycin, which provides considerable protection, has not effected permanent cure. Since no specific remedy has been discovered, the accepted methods of treatment, which have obtained excellent results in a great many cases, must be relied on. Editorial, *N. E. Jour. Med.*, Dec. 5, 1946.

A factor which has unquestionably retarded the control of tuberculosis has been an unwillingness on the part of the public and the medical profession to look upon tuberculosis as a communicable disease. The possibilities of prevention have been generally obscured by the stigma that has dogged the disease through the centuries. Henry D. Chadwick, M. D., and Alton S. Pope, M. D. The Modern Attack, on Tuberculosis, The Commonwealth Fund, Revised, 1946.

The average age of the population is increasing, the number of cases of tuberculosis in the aged is showing a commensurate rise. The disease in the elderly may be even more prevalent than mortality statistics suggest, since a significant number of deaths are not accurately reported. J. D. Wassersug, M. D., *N. E. Jour. of Med.*, Aug. 15, 1946.

Health, like freedom and wealth, cannot be given, but must be earned. Edward J. Steiglitz, M. D., A Future for Preventive Medicine, The Commonwealth Fund, 1945.



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Writing on treatment in congestive heart failure, Eggleston[1] states: "The slow intravenous injection of 0.25–0.5 Gm. of Aminophyllin often gives dramatic relief."

[1] Eggleston, C., in Cecil, R. L.: A Textbook of Medicine, ed. 6, Philadelphia, W. B. Saunders Company, 1943, p. 1154.

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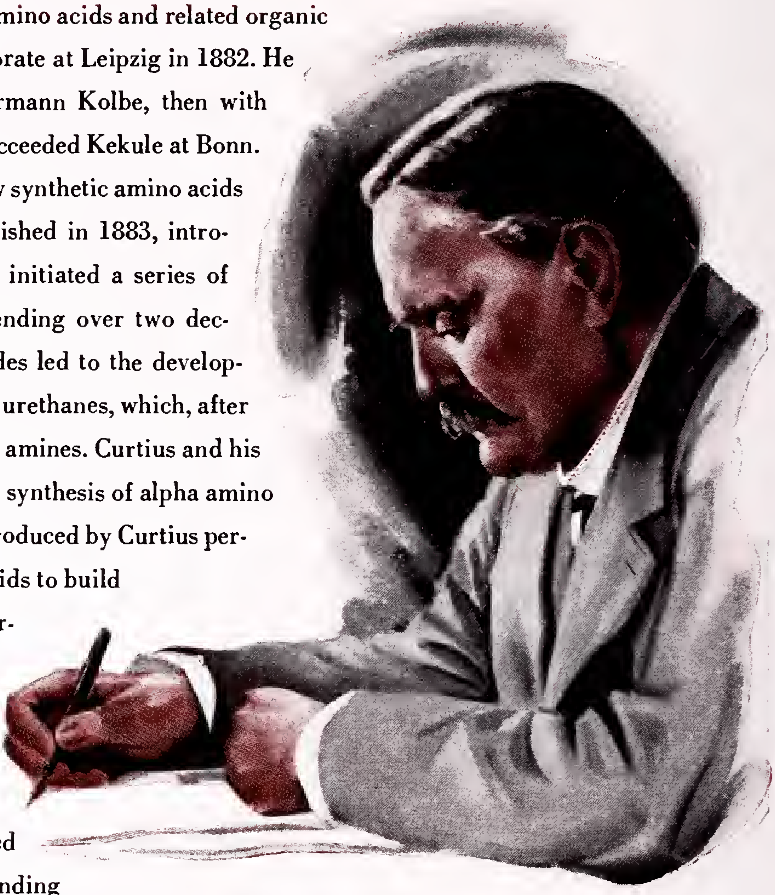
This eminent investigator of amino acids and related organic compounds obtained his doctorate at Leipzig in 1882. He was associated first with Hermann Kolbe, then with Adolph Baeyer; in 1896 he succeeded Kekule at Bonn. His dissertation on several new synthetic amino acids related to hippuric acid, published in 1883, introduced diazoacetic esters, and initiated a series of systematic investigations extending over two decades. His work with acid azides led to the development of a method of preparing urethanes, which, after acid hydrolysis, yield primary amines. Curtius and his pupils evolved methods for the synthesis of alpha amino acids. Acid azide reactions introduced by Curtius permitted the linkage of amino acids to build polypeptides. As a teacher, Curtius attracted students from many countries. His elucidation of numerous problems associated with the chemistry of amino acids pointed the way to a clearer understanding of proteins and protein derivatives and their role in nutritional science.



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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

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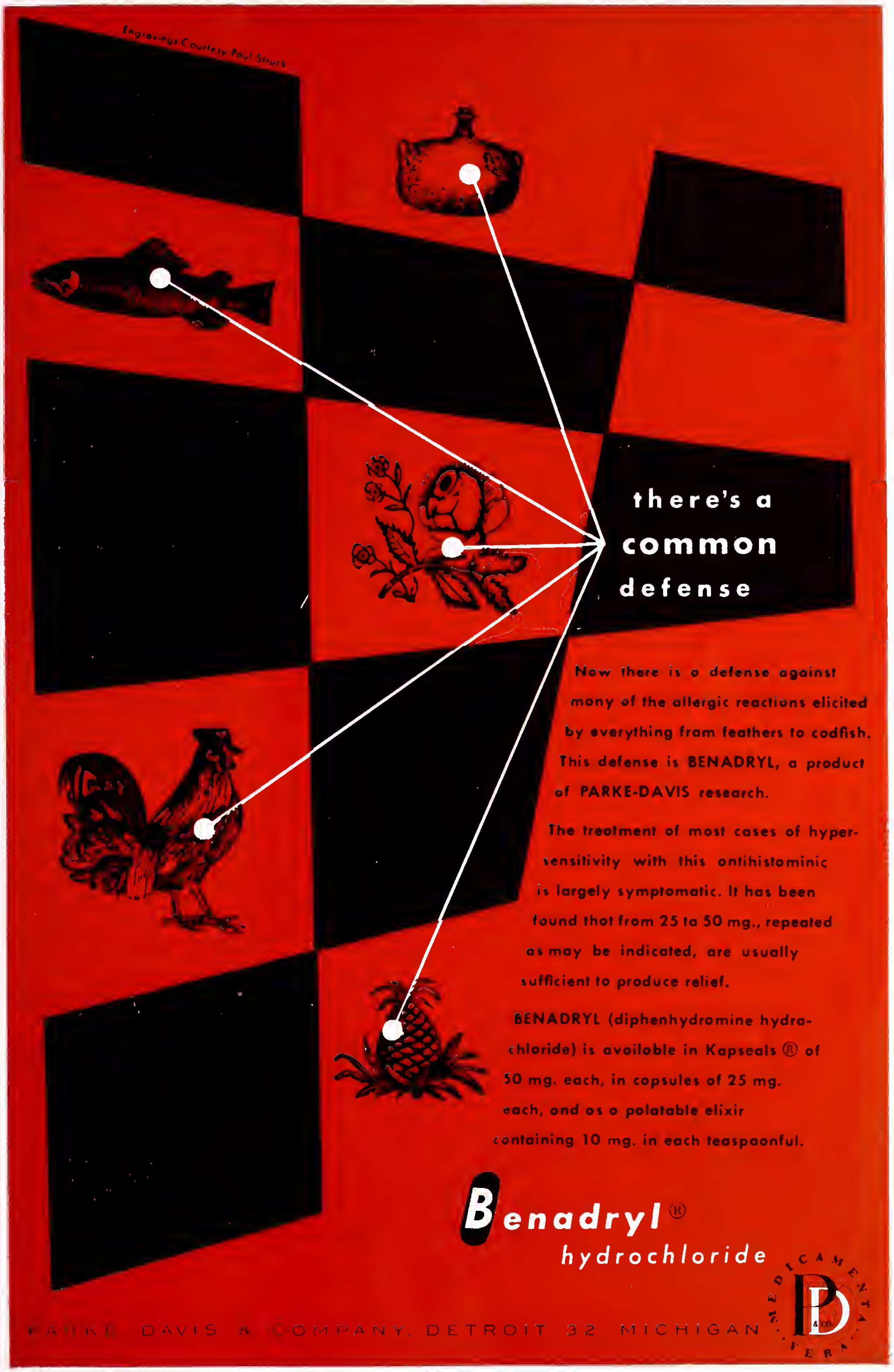

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FIGURE 1 — Patient — thin type of build with beginning faulty body mechanics. The Camp adjustment provides a more stable pelvis, allowing patient to "draw in" the abdominal muscles thus gradually acquiring a gentle lumbar curve.

FIGURE 2 — Patient — intermediate type of build. Strain of lumbosacral joint predisposes to other strains. For protection of the joints in the lumbar region from recurrent strain and also as an aid in relieving the pain of acute conditions, Camp lumbosacral supports have proved effective.

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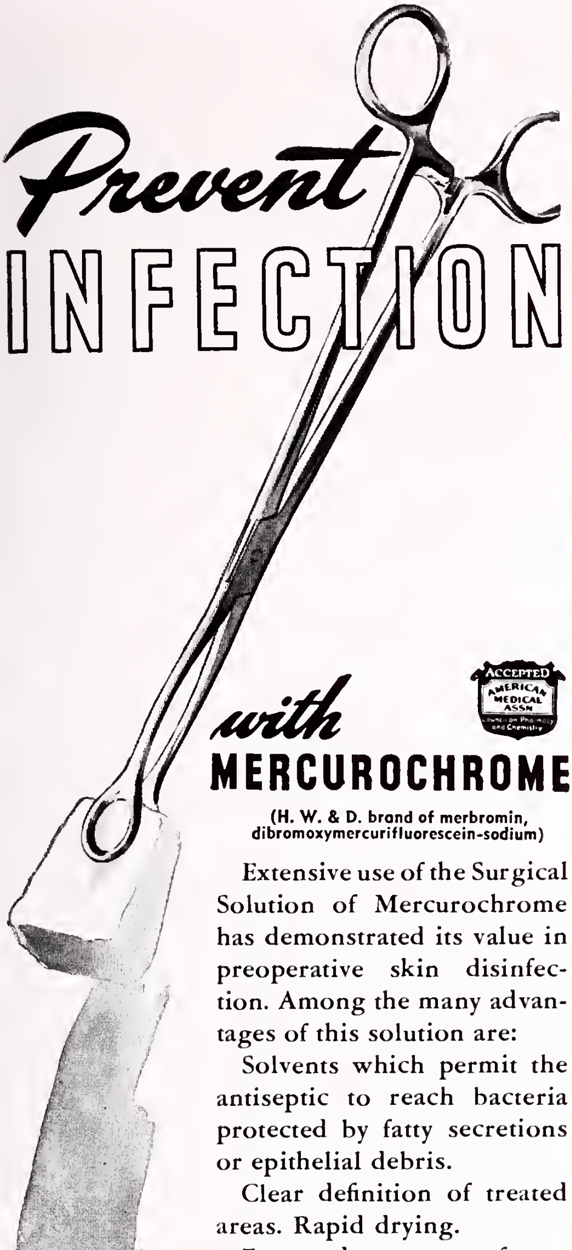

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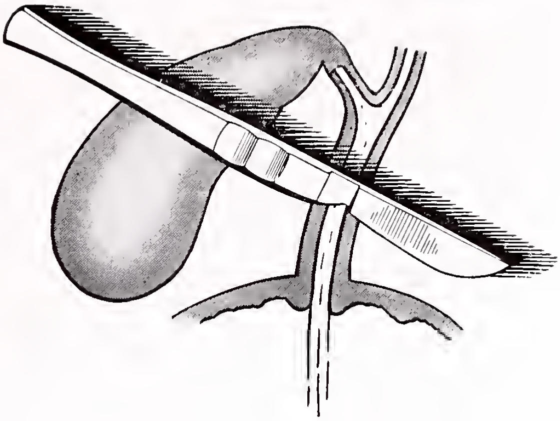

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Decholin

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DEXTRINS - MALTOSE - DEXTROSE
hydrolyzed from pure starch providing
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Two tablespoonfuls equal 1 fl. oz.
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Try our Sunshine Vitamin "D" milk, testing about 4 per cent, Cream Buttermilk, and other high grade dairy products.

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"the events of all past days"

"A person's nutritional status today depends on the events of all past days."[1] Slight deficiencies should not be ignored "as if they were without effect," for "partially, indeed slightly deficient diets eaten regularly and periodically over many years have their consequences."[1] Such nutritional delinquency often takes its greatest toll under the stress of illness, surgery, pregnancy, lactation, or accident. For depleted tissues, Upjohn vitamins provide a wide range of dosage forms for therapy or supplementation, in preparations adapted to oral and parenteral administration in the practice of medicine and surgery.

[1] National Research Council Bull. No. 109, 1943, pp. 18-21.

Upjohn
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FINE PHARMACEUTICALS SINCE 1886

UPJOHN VITAMINS

BRIEF HISTORICAL NOTES ON MEAD'S CEREAL, PABLUM AND PABENA

HAND in hand with pediatric progress, the introduction of Mead's Cereal in 1930 marked a new concept in the function of cereals in the child's dietary. For 150 years before that, since the days of "pap" and "panada," there had been no noteworthy improvement in the nutritive quality of cereals for infant feeding. Cereals were fed principally for their carbohydrate content.

The formula of Mead's Cereal was designed to supplement the baby's diet in minerals and vitamins, especially iron and thiamine. How well it has succeeded in these functions may be seen from two examples:

(1) As little as one-sixth ounce of Mead's Cereal* supplies over 50% of the iron and 20% of the thiamine minimum requirements of the 3-months-old infant. (2) One-half ounce of Mead's Cereal furnishes all of the iron and 60% of the thiamine minimum requirements of the 6-months-old baby.

That the medical profession has recognized the importance of this contribution is indicated by the fact that cereal is now routinely included in the infant's diet as early as the third or fourth month instead of at the sixth to twelfth month as was the custom only a decade or two ago.

In 1933 Mead Johnson & Company went a step further, improving the Mead's Cereal mixture by a special process of cooking, which rendered it easily tolerated by the infant and at the same time did away with the need for prolonged cereal cooking in the home. The result is Pablum, an original product which offers all of the nutritional qualities of Mead's Cereal, plus the convenience of thorough scientific cooking.

During the last twelve years, these products have been used in a great deal of clinical investigation of various aspects of nutrition, which have been reported in the scientific literature.

Many physicians recognize the pioneer efforts on the part of Mead Johnson & Company by specifying Mead's Cereal and PABLUM—and also the new Pablum-like oatmeal cereal known as PABENA.

---

*Pablum, the precooked form of Mead's Cereal, has practically the same composition: wheatmeal (farina), oatmeal, cornmeal, wheat embryo, beef bone, brewers yeast, alfalfa leaf, sodium chloride, and reduced iron.

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Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 19
NUMBER 6

JUNE, 1947

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

BACKGROUND

Three Decades of Clinical Experience

THE use of cow's milk, water and carbohydrate mixtures represents the one system of infant feeding that consistently, for over three decades, has received universal pediatric recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

DEXTRI-MALTOSE No. 1 (with 2% sodium chloride), for normal babies.
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These products are hypo-allergenic.

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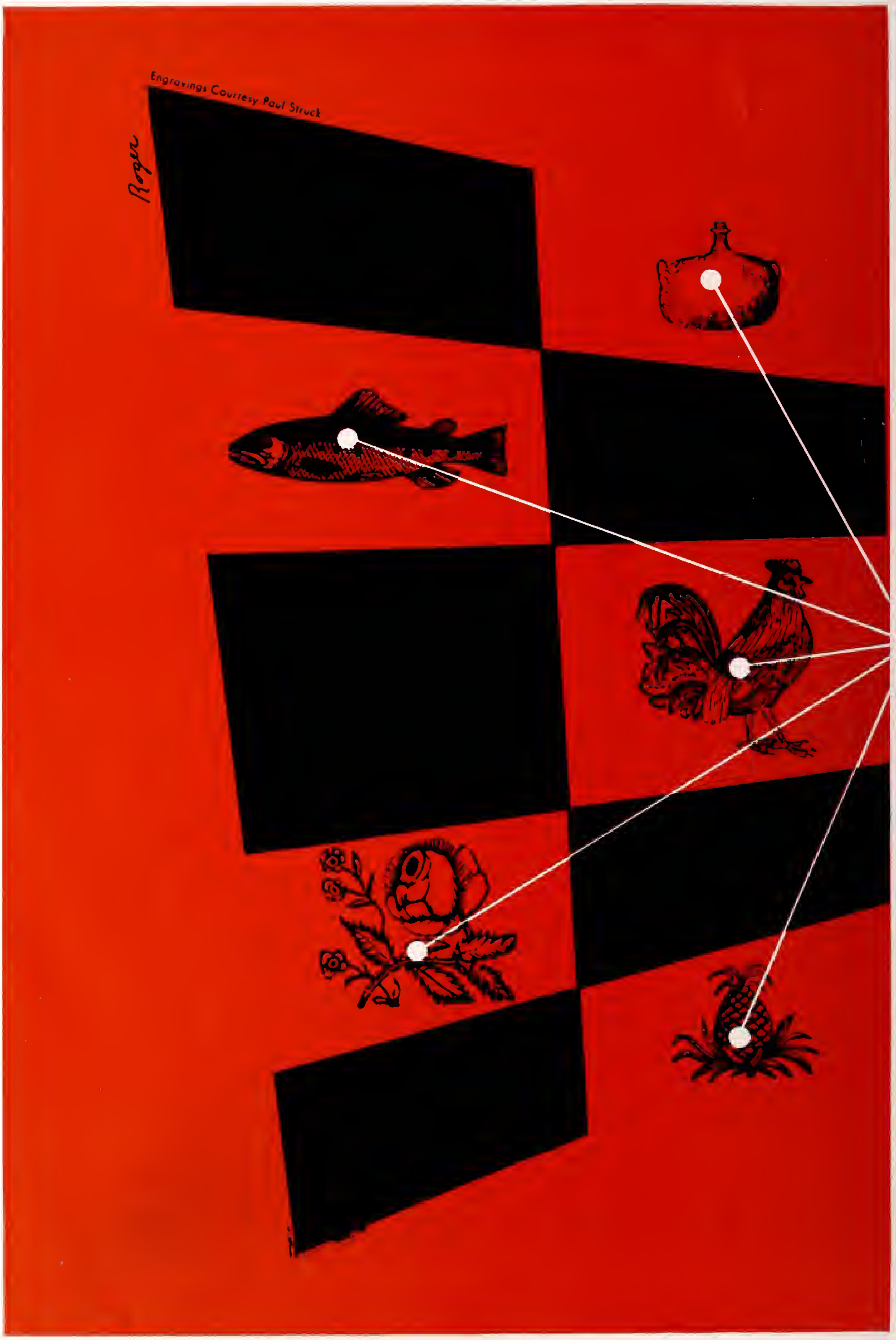

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there's a common defense

Now there is a defense against many of the allergic reactions elicited by everything from feathers to codfish. This defense is BENADRYL, a product of Parke-Davis research.

The treatment of most cases of hypersensitivity with this antihistaminic is largely symptomatic. It has been found that from 25 to 50 mg., repeated as may be indicated, are usually sufficient to produce relief.

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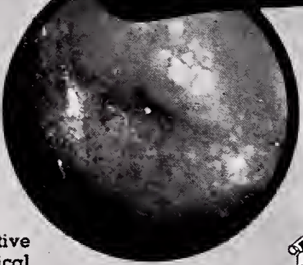
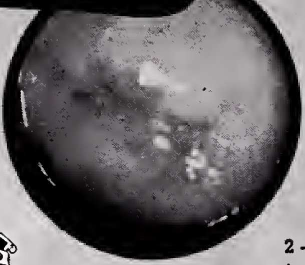
Barrier Action

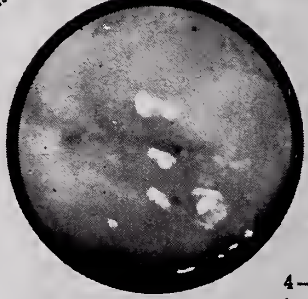


1—Precoitus. Effective occlusion of cervical os by "RAMSES" Vaginal Jelly.



2—One hour postcoitus. Barrier action maintained by film of jelly.

3—Four hours postcoitus. Uterine os remains occluded.



4—Ten hours postcoitus. Occlusion still manifest—barring the passage of sperm.

The direct-color photographs shown above establish the prolonged barrier action of "RAMSES"* Vaginal Jelly. For photographic purposes, the jelly, which has a transparent clarity, was stained with a nonspermatocidal concentration of methylene blue.

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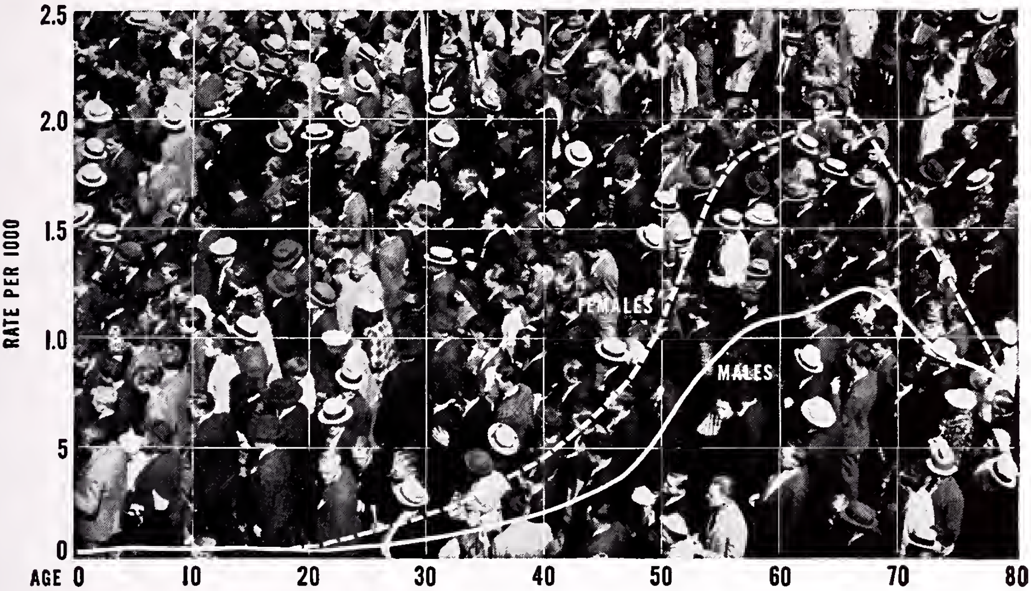
WITHIN THE YEAR: 50,000 new diabetics

CHANCES PER THOUSAND OF BECOMING DIABETIC WITHIN THE YEAR OF AGE. Adapted from Statistical Bull.2



Of our present population, about 4,000,000 will become diabetic sometime in their lives. More than 4% of females and 2% of males under 50 will acquire the disease. With an increase of 50,000 a year, their number will grow in the next few decades at a rate greater than that of the total population. When our population reaches its expected maximum in 1985, it will be 22% larger than in 1940—but by then the diabetic population may increase by 74%![1,2]

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5. The globin constituent does not appear to be allergenic. It is thus comparable to regular insulin in its freedom from allergic reactions.

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1. Spiegelman, M., and Marks, H. H.: Am. J. Pub. Health 36:26 (Jan.) 1946. 2. Statistical Bull., Met. Life Ins. Co. 27:6 (Feb.) 1946.

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Herman von Helmholtz
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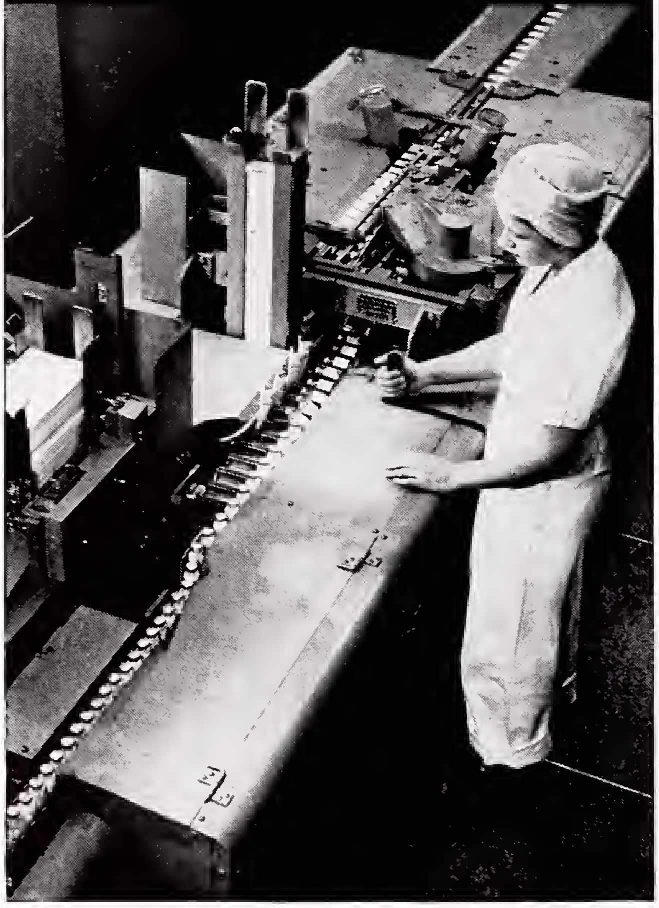

CLINICAL INDICATIONS

Streptomycin is effective in the treatment of:

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Esch. coli **A. aerogenes**
Proteus vulgaris **Ps. aeruginosa** (*B. pyocyaneus*)
Klebsiella pneumoniae (*Friedländer's bacillus*)

TULAREMIA
ALL *H. influenzae* INFECTIONS

Streptomycin is a helpful agent in the treatment of the following diseases, but its position has not been clearly defined:

Peritonitis due to susceptible organisms.

Pneumonia due to *Klebsiella pneumoniae* (*Friedländer's bacillus*).

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★

Physicians now may obtain adequate supplies of this remarkable new antibacterial agent, without restriction, from their local pharmacists and hospitals.

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"...the physiological state of the patient affects the mortality and morbidity of surgical practice as much or more than the correctness or skillfulness of that practice."[1] For that reason the fork must share with the scalpel the responsibility of favorable prognosis. The food the patient eats contributes greatly to the outcome of an operation. Faulty diet and a resultant avitaminosis make surgery more hazardous and impede recovery. For pre- or postoperative supplementation and therapy, Upjohn vitamins afford a full range of high-potency oral and parenteral formulas.

[1] Surg., Gynec. and Obst **74**:390 (Feb. 16) 1942.

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*BOGERT, L. J.: *Nutrition and Physical Fitness, 4th edition, 1943, Chapter IX, p. 22.*
**A.M.A.: *Handbook of Nutrition, 1943, p. 360.*

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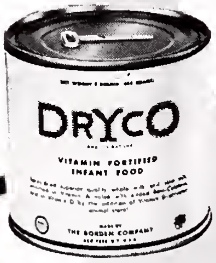

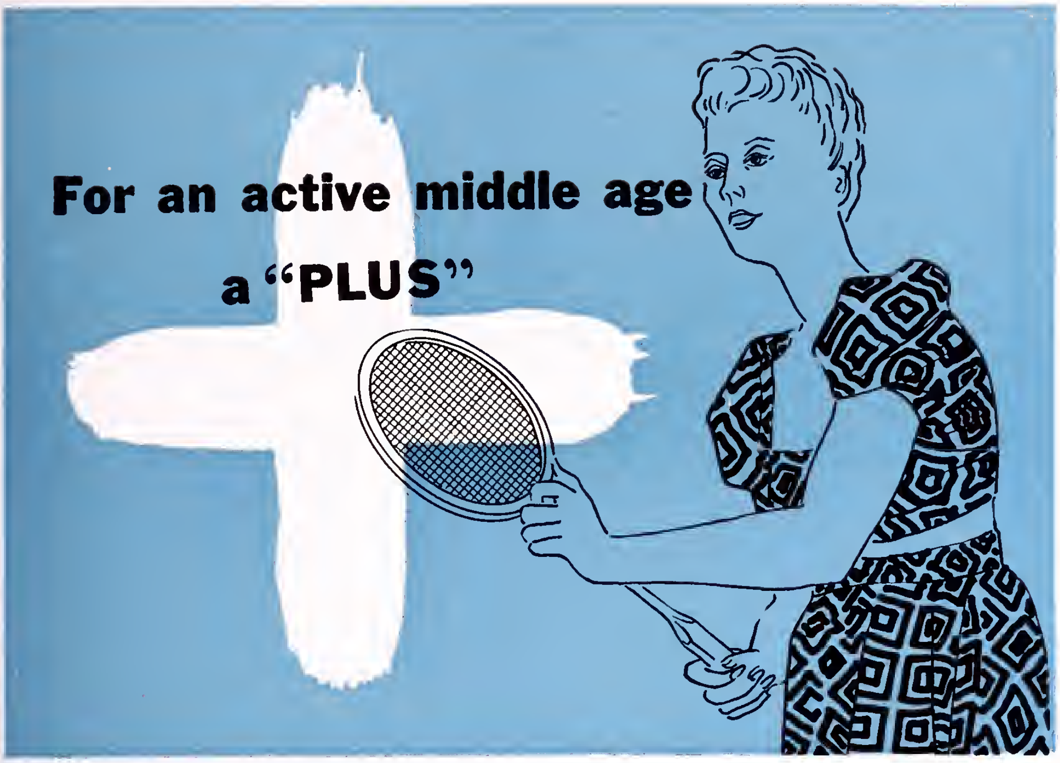
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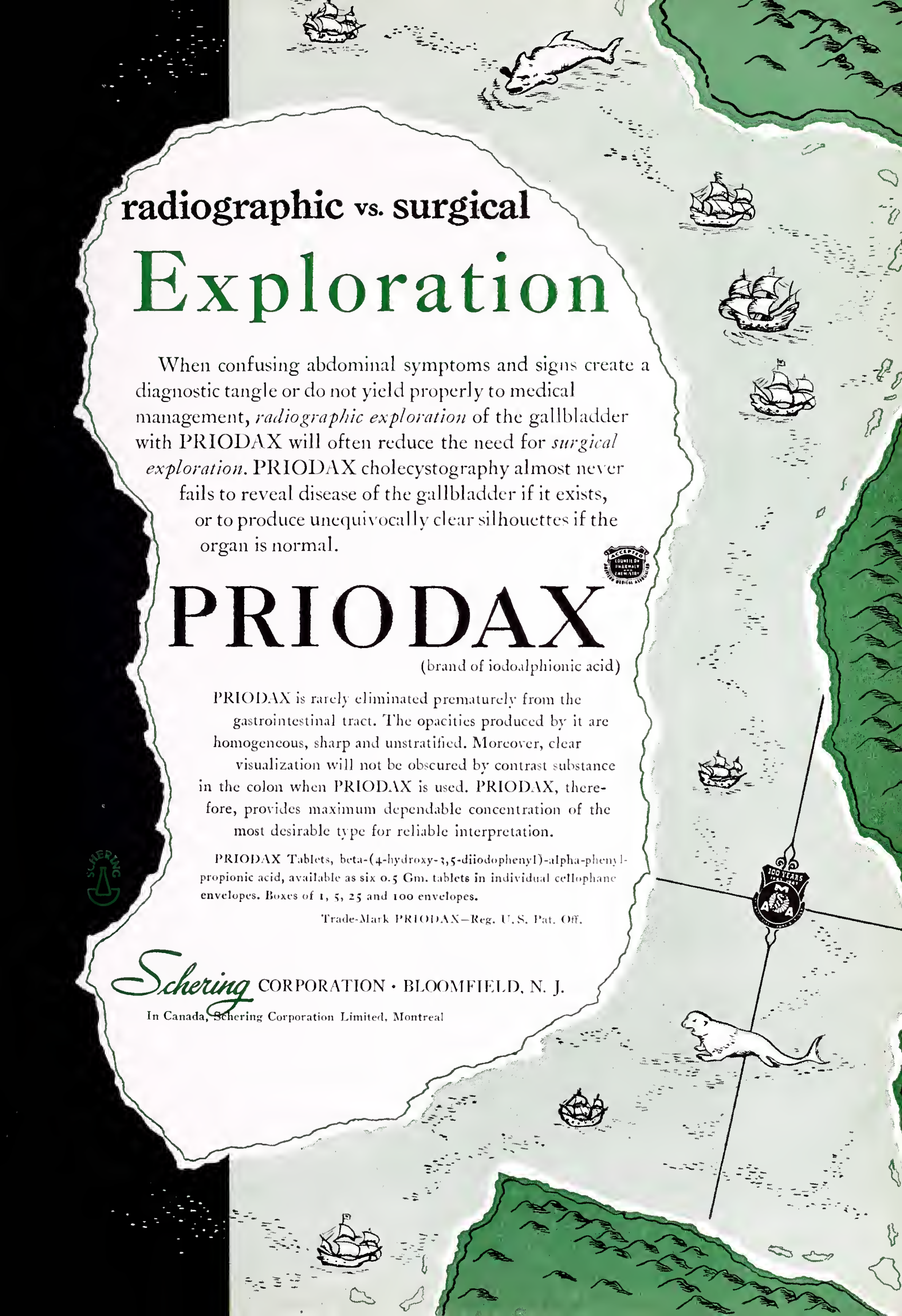

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Issued Monthly Under the Supervision of the Publication Committee
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VOLUME 19
NUMBER 6

JUNE, 1947

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CONTINUOUS SPINAL ANESTHESIA IN ABDOMINAL AND THORACIC SURGERY*

William T. Lemmon, M. D.,
Philadelphia, Pa.

Experimentation

In 1938 animal experimentation was made to establish the safety and controllability of continuous spinal anesthesia. It was found that by permitting the spinal puncture needle to remain in the subarachnoid space of animals, and at regular intervals adding small doses of the anesthetic drug, the anesthesia could be kept up for as many hours as desired. It was also found that animals could take, with safety, many times the lethal dose of the drug if it was administered in small doses over a long period of time. It was established that small doses of a drug given over a period of time was much safer than one large single dose. Dogs and monkeys were used, and novacaine (procaine hydrochloride) was the drug used. Novocaine is accepted as the safest drug, clinically and experimentally, for producing spinal anesthesia.

We kept monkeys under continuous spinal anesthesia for as long as twelve hours, and used more than 600 mgs. of novocaine, injecting 50 mgs. at thirty minute intervals. The height and degree of anesthesia was controlled as desired. Some monkeys had a total of more than fifty hours of continuous spinal anesthesia without any demonstrable deleterious effects.

Clinical Observations

Clinically, the most important disadvantages of the single-dose method of spinal anesthesia are: (1) failure of the drug to "take" or produce anesthesia to the desired level or degree; (2) the action of the drug wearing off before the operation is completed; and (3) toxic symptoms or even sudden death following the intraspinal injection of a large single dose of the anesthetic agent. We felt that our animal experimentation with this new method of continuous spinal anesthesia had eliminated these disadvantages found in the single dose spinal anesthesia method.

On April 10, 1939, we gave our first continuous spinal anesthesia to a patient. This patient was jaundiced due to stones obstructing the common bile duct. She also had fever, chills, and sweats. There was present an acute cholecystitis. After proper preoperative preparation with improvement in liver function, she was operated upon using continuous spinal anesthesia. The initial dose of novocaine was 200 mgs. which produced anesthesia to the fourth thoracic segment in approximately 10 minutes. There was perfect abdominal relaxation. The stones were removed from the common bile duct, and a T-tube was placed for drainage. The gall bladder was removed. The intestines began to distend, and the abdominal muscles began to get tense when the peritoneum was grasped for abdominal closure, 35 minutes after the initial injection of novocaine. The stopcock was opened and 20 mgs. of novocaine was given. The intestines promptly collapsed, and the abdominal muscles relaxed within two minutes after the injection of novocaine. The abdominal incision was satisfactorily closed in a few minutes under ideal operating conditions. Experienced abdominal surgeons are familiar with the difficulties encountered in closing upper abdominal incisions in patients with unrelaxed, tense, or rigid abdominal muscles. Indeed, the wound closure may be more trying and difficult than the operation itself. With continuous spinal anesthesia perfect muscular relaxation may be maintained at all times during the operation. This is a source of comfort to the surgeon and patient. We have now used this anesthesia in more than 4,000 cases. As our experience has increased, we have extended the field of usefulness of this type of anesthesia. It was first used in abdominal, pelvic, perineal, and

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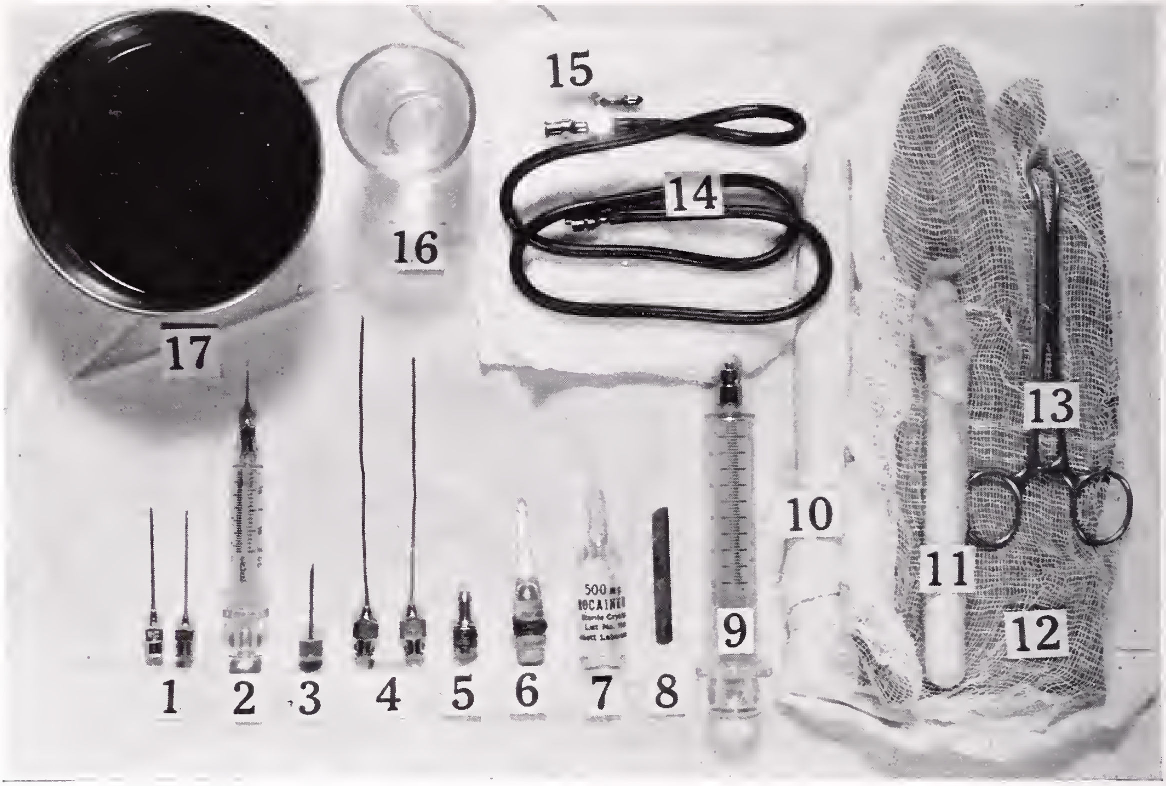
* Read before the Medical Society of Delaware, Dover, October 9, 1946.



lower extremity operations. We now use it in thoracic, breast, and upper extremity operations. It was first limited to the middle age group of patients, but now we use it on any age patient if there are no other contraindications. In breast amputations there is less bleeding, less renal and respiratory irritation, and a much more rapid convalescence than when general anesthesia is used. We have found it to be safe and easily controlled in breast operations. Difficulties with this method of spinal anesthesia are usually due to improper spinal puncture or insufficient dosage of the drug. Difficulties diminish or disappear as experience increases in the use of this method of anesthesia.

Equipment and Technique

Figure I

1. Indicates hypodermic needles.
2. A 2 cc. syringe with needle attached.
3. A Sise introducer used to puncture skin.
4. 18 and 19 gauge malleable needles.
5. Luer-Lok plug.
6. Ampoule containing 50 mgs. ephedrine sulfate in 1 cc. of 2% novocaine.
7. 500 mg. ampoule of novocaine crystals.
8. File used to open ampoules.
9. A 10 cc. Luer-Lok syringe.
10. Sterile towel.
11. Sterile test tube of powder.
12. Sterile rubber gloves.
13. Towel clip.
14. 30 inches of small caliber, thick walled rubber tubing.
15. Stopcock.
16. Medicine glass filled with sterile water.
17. Metal container filled with fluid used in preparing the skin for puncture.

Figure II

4. Illustrates the head end of a mattress that is 6 feet long, 18 inches wide and 5 inches in height. This mattress is covered by rubber.
5. Shows a buckle and strap which is used in removing the lower end of the mattress when perineal operations are done.
    (a) Shows cut out portion of mattress for perineal operations.

6, 7, & 8. Lower end of mattress used to support the lower extremities. The breaks conform to the legs and thighs when flexed and the patient is in the Trendelenburg position.

9. Insert illustrates the opening in the pad enlarged so that the needle may be adjusted if necessary.
10. Illustrates a 30 cc. Luer-Lok syringe with 30 inches of rubber tubing and needle attached.
11. Illustrates a stopcock.
12. Shows a short bevel malleable spinal needle with an opening in the bevel. This opening facilitates the flow of spinal fluid, and prevents blockage to the flow by the dural membrane.
13. Illustrates a Luer-Lok connected to a malleable spinal needle.
14. Luer-Lok plug used to prevent flow of spinal fluid while solutions are being prepared.
15. Sise introducer used to puncture the skin so that the malleable spinal needle may be introduced without difficulty.

Figure III illustrates some of the positions that patients are placed for operation.

- C. (1) Position for operations on the thorax and breast operations.
  - (2) Position for operations on the abdomen and pelvis.
- D. (3) Position for paravertebral thoracoplasty or other operative procedures on the thorax.
  - (4) Position for kidney operations or sympathectomies.
- E. (5) Position for sacral operations, pilonidal sinus, and operations on posterior surface of extremities.

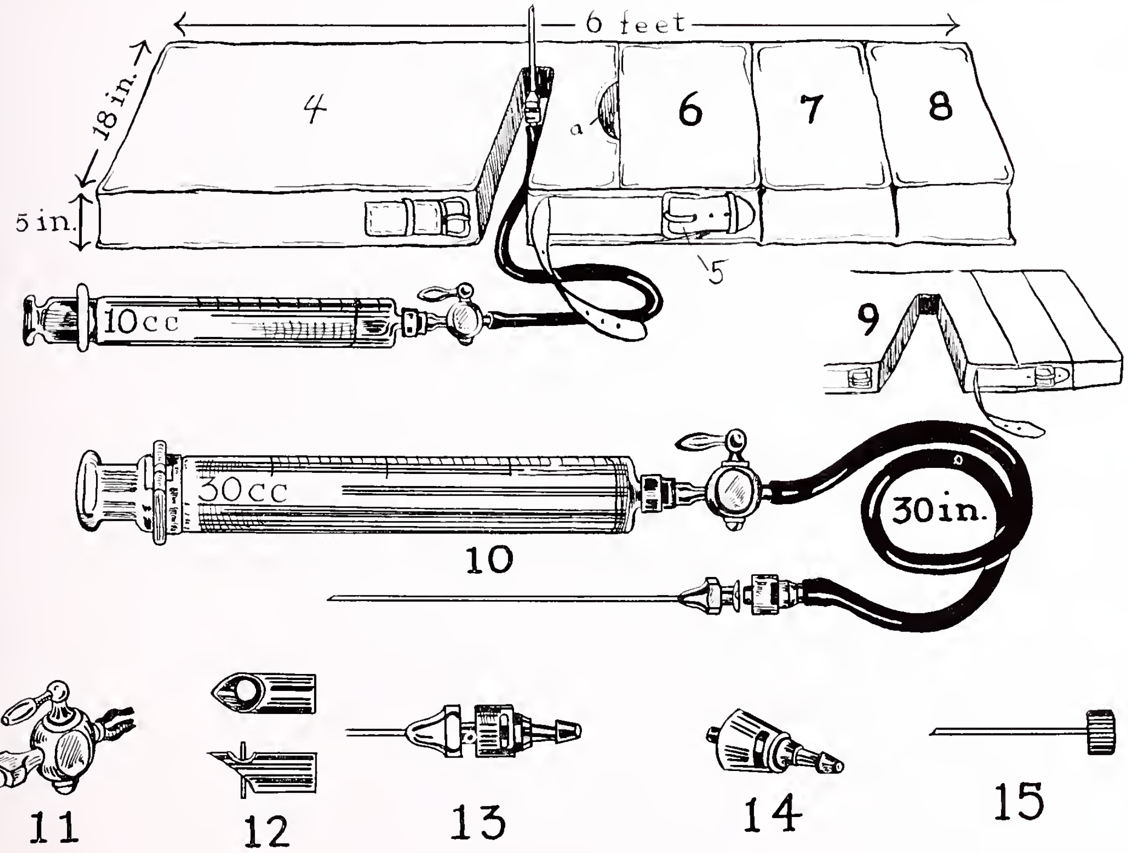
Figure IV

- A. Illustrates the patient in position for plastic and perineal operations.
- B. Trendelenburg position for pelvic, abdominal and thoracic operations.

Administration

Preoperative Medication—we believe the preoperative medication to be very important in continuous spinal anesthesia. The average healthy adult gets 3 grains nembutal at eight o'clock the evening before operation. This insures a good night's rest, and diminishes nervous apprehension. Three hours before operation, 3 grains of nembutal is given. One hour before operation a hypodermic injection is given containing 1/4 grain of morphine sulfate, and 1/100 grain of scopolamine hydrobromide. These doses are varied according to the individual patient. In bad risk, elderly patients the dose is diminished. We do not increase the above dosage. If patients are not sufficiently sedated, 1/8 grain of morphine sulfate is given intravenously, and is repeated as often as necessary.

The patient is placed on a specially designed mattress, Figure II (4, 6, & 8). The operating table, with mattress and patient, is placed in 3 degrees Trendelenburg position. The patient is turned on one side with back towards the opening in the mattress, and thighs are flexed on abdomen. This increases the space between the lumbar spinous processes, and facilitates successful lumbar puncture. The third, fourth, or fifth lumbar interspace is chosen, and the skin over the chosen interspace is infiltrated with an intradermal injection containing novocaine 2% and ephedrine. The ampoule contains 1 cc. of 2% novocaine and 50 mgs. of ephedrine, and after the skin is infiltrated the remainder is injected hypodermically and into the interspinous ligament. The skin is now punctured



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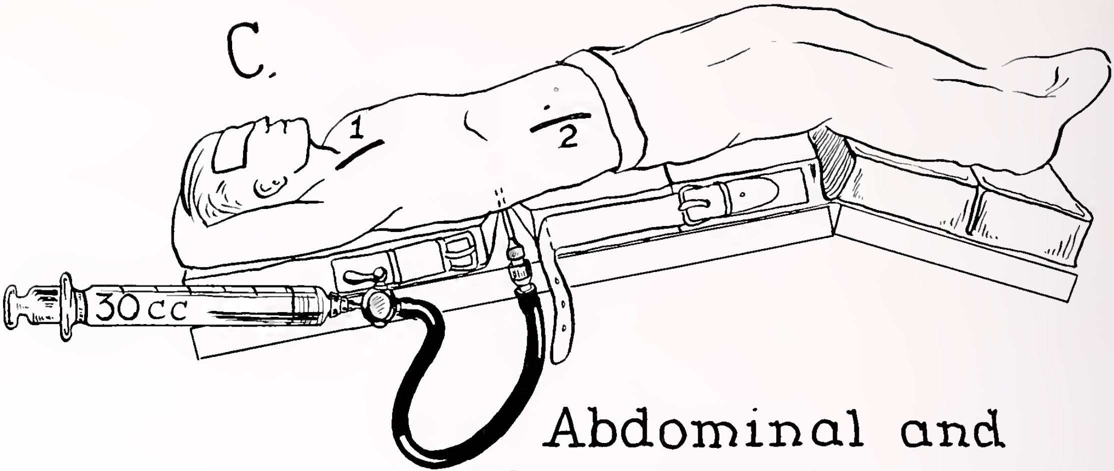
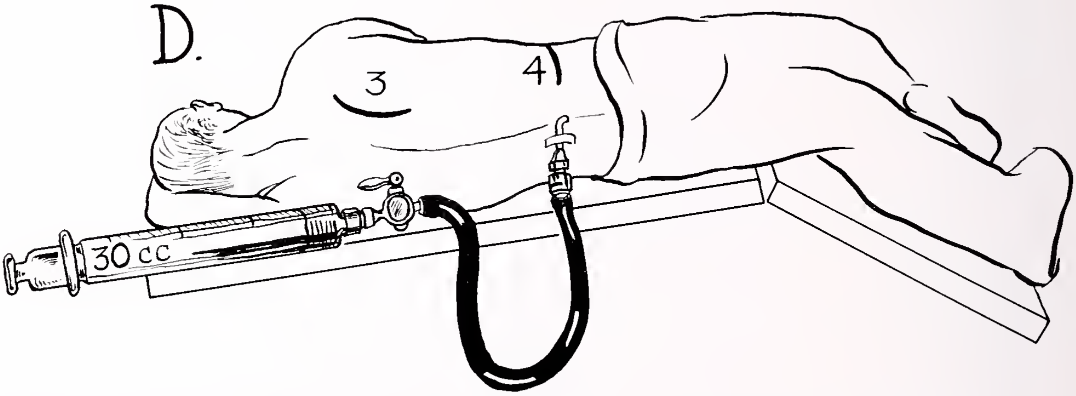


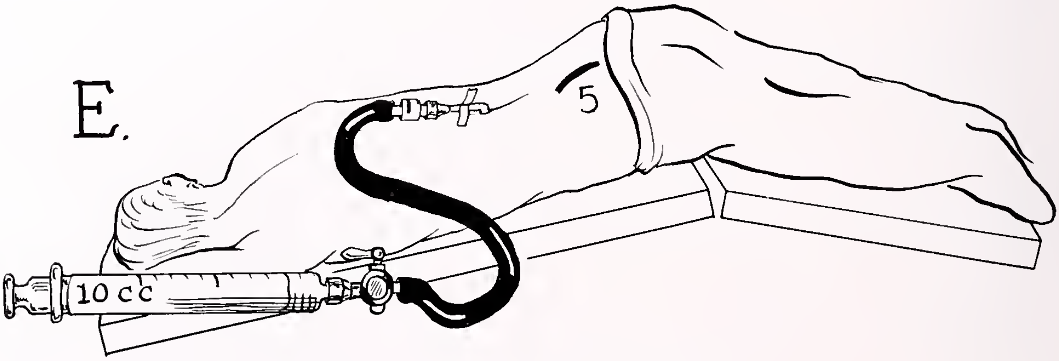
Abdominal and Thoracic Operations

D.



Kidney and Thoracic Operations

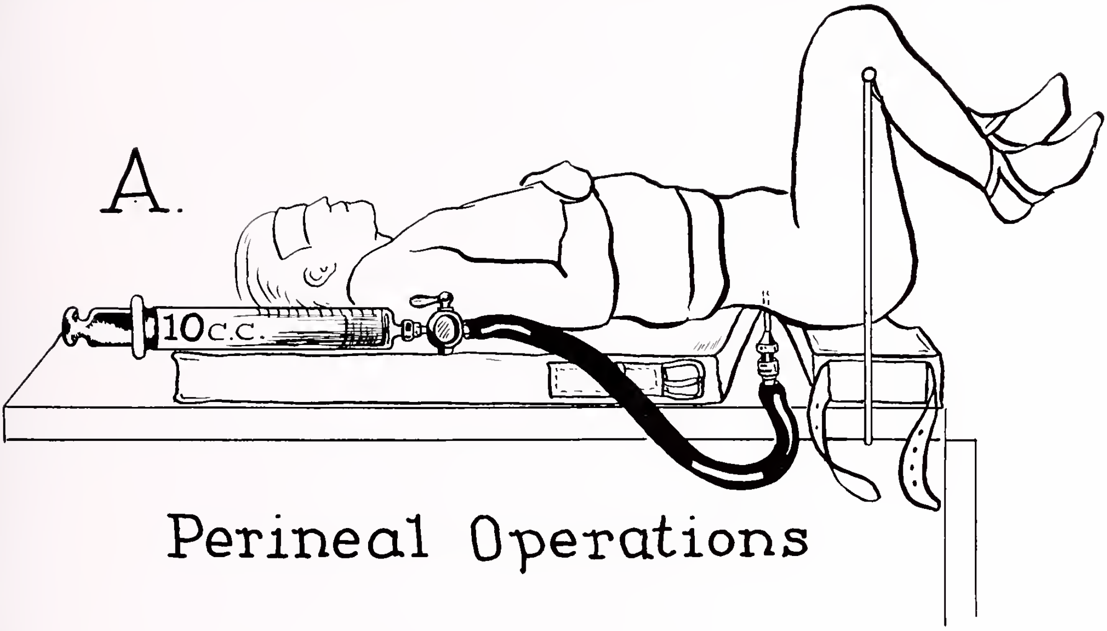
E.



Sacral Operations

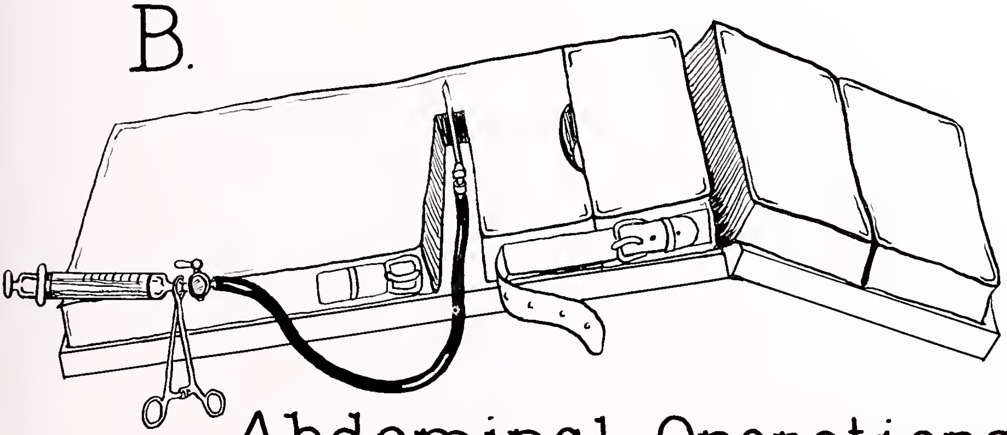
using a Sise introducer, Figure II (15). A malleable needle, No. 18 or 19 gauge, Figure I (4), is now introduced into the subarachnoid space and a free flow of spinal fluid obtained. A stilette is not used in the needle. Ten cc. of spinal fluid is removed by attaching a 10 cc. Luer-Lok syringe to the needle in the subarachnoid space, Figure I (9). The syringe is detached, and the flow of spinal fluid is controlled by attaching a Luer-Lok plug, Figure II (14). A needle is attached to the 10 cc. syringe containing 10 cc. of spinal fluid and this fluid is thoroughly mixed with the novocaine crystals in the 500 mg. ampoule, Figure I (7). The file, Figure I (8), is used in opening the ampoules, Figure I (6 & 7). The dissolved crystals are now removed from the ampoule into the syringe which is attached to 30 inches of rubber tubing, Figure I (14). It takes 2 cc. of this solution to completely fill this rubber tubing. The stopcock, which is connected with the syringe, is now turned to

A.



Perineal Operations

B.



Abdominal Operations
Trendelenburg Position

cut off the flow of solution. There will be 8 cc. of solution remaining in the syringe and 2 cc. in the 30 inches of rubber tubing. The plug is now removed from the needle in the spine, and the rubber tubing, with attached syringe, is connected with the spinal needle. The stopcock is turned to open, and by gentle traction on the plunger of the syringe a free flow of spinal fluid is obtained. Sometimes the spinal fluid flows itself, pushing the plunger of the syringe outward. When we dissolve 500 mgs. of novocaine in 10 cc. of spinal fluid we get a 5% solution, each cc. of which contains 50 mgs. of novocaine. The usual initial dose of novocaine is 150 mgs.; 3 cc. of this solution is slowly injected. The desired height and degree of anesthesia should be obtained in five or ten minutes. The patient is now placed into the position desired for operation. As soon as that position is assumed, the flow of spinal fluid is tested to be sure it is free. The operative area is prepared, draped, and the operation begun. Every thirty minutes 1 cc. of spinal fluid is aspirated to be sure of a free flow, and 2 cc. returned to the subarachnoid space. This gives a dose of 1 cc. containing 50 mgs. of novocaine. Sometimes the novocaine must be given more often than 30 minute intervals, and in doses more than 50 mgs. in order to maintain perfect anesthesia. The proper dose is enough to produce the desired level and degree of anesthesia, and this varies greatly.

SUMMARY

1. Continuous spinal anesthesia has been used in more than 4,000 surgical operations.
2. The technique of producing continuous spinal anesthesia is discussed.
3. The safety and controllability of this method is presented.
4. We believe that our mortality and morbidity have been lowered by the use of this method of anesthesia.

DISCUSSION

DR. R. DOUGLAS SANDERS (Wilmington): I welcome the opportunity of addressing this Society and of meeting with you and particularly of meeting Dr. Lemmon whom I have heard so much about for so long and have used his technique for quite a while.

It is possible that the conditions that exist at Jefferson Medical College, where no professor of anesthesia is in residence, established the need for an improvement in spinal anesthesia, and I want you to clearly understand that my remarks shall not in any way detract from the advantage that has been gained for medicine by Dr. Lemmon's singular work on this particular technique. It has been of distinct advantage to us and has enlarged the field over which spinal anesthesia might be used to good advantage.

Certainly spinal anesthesia may be given over a much more prolonged period and over a greater group of serious risk cases than formerly was possible. We have not, however, been able to use it in those cases which we regard as absolutely inflexible contra-indications; to mention one, any degeneration of the spinal cord such as occurs in pernicious anemia, diabetes or late neurosyphilis.

Too, we do not use it in cases of extreme shock even in smaller doses. We have found that inhalation is preferable. You will understand my remarks are only my experience and are not based on others' work. As for novocaine selectively attacking the sensory system without concomitantly attacking the sympathetic, it seems to occasionally do so in the very aged who have a very low threshold of effect of procaine. In the heart is very much slower because all the mechanisms of the heart have been paralyzed. I think an absolutely minimum lethal dose of novocaine does not exist, that truly thousands of milligrams may be given. The reason for the development of such serious shock in cases that have had the one shot method is frequently the paralysis of the sympathetic system suddenly. One hundred and fifty milligrams is a very small dose to inject subcutaneously but a very high dose to inject intraspinally if you inject it rapidly in a patient who is a serious risk. In this type of instance the continuous method would have been proven very valuable and to all extent it is reversible early. Later on we have not been able to reverse it completely.

As to the relative safety of the drugs that may be used in the continuous method we still hold that novocaine is the safest known local anesthetic and we prefer it, although many are now using pontocaine and the new bricaine. We still stock with novocaine. We find that the dosage tends to be higher with the continuous method than with the one shot method for the reason we begin more cautiously and we stop all the pain we may. We are not limited by the fact that we cannot again give another dose. Of course, by various other methods that have recently come into vogue it has been possible to produce a spinal-like relaxation. By the use of socopropaine we have produced a relaxation possibly even greater than spinal, if that is conceivable, but we do not like to use them where spinal can be used, and we rather tend to limit our use of even continuous spinal to abdominal operations for the reason we wish absolute control of the respiratory mechanism.

Again let me thank you gentlemen for the privilege of addressing you and again I appreciate having met Dr. Lemmon.

Dr. Robert S. Heller (Wilmington): I have little to add to what has already been said. One of the faults we found with continuous spinal, particularly in working around the stomach, has been the nausea, not exactly the pain but the discomfort that is associated with it. We have had quite frequently to supplement the continuous spinal with penthothal and, of course, once we start using that we have to continue it all during the operation. We have used pontocaine and glucose in place of novocaine. After having used both types of agents, we found that in using pontocaine we were able to use a much, much smaller dose by comparison than we would with novocaine.

I don't think I have anything else to add to that. Thank you.

Dr. Lemmon: I want to thank the members of this society for the privilege of being here to give this talk. Dr. Sanders' and Dr. Heller's discussions were very valuable and are much appreciated. If I had Dr. Sanders or Dr. Heller available for giving anesthesia I would depend upon them completely, so that I would be free to do the operations without being troubled with the anesthesia. At the present time we do not have a physician anesthetist available and I have developed a type of spinal anesthesia that is under direct control.

I agree with Dr. Sanders that degeneration of the spinal cord, neurosyphilis, and shock are contraindications to the use of spinal anesthesia. In pernicious anemia there are degenerative changes in the spinal cord due to the anemia. If spinal anesthesia is used on these patients it may get the credit for having produced the degenerative changes in the spinal cord. As far as shock is concerned I don't think any patient should be operated on in shock unless it is controlled or being controlled while anesthesia is being used. If it is due to hemorrhage, multiple transfusions will soon relieve the condition and anesthesia and operation may proceed with safety. This is particularly true in cases of severe hemorrhage due to peptic ulcer.

Some anesthetists have more experience with pontocaine than with procaine. There is no argument about the drugs to be used. The anesthetist should use the drug with which he has had the most experience.

This method of anesthesia has been found to be safer than the original one shot dosage of spinal anesthesia. We have found that spinal anesthesia is the best anesthesia for many patients. We like to end with the anesthesia that we began with, particularly when it is the anesthesia of choice. This method of anesthesia will last regardless of the duration of the operation. We feel sure that we have reduced both mortality and morbidity in surgery by the use of this method. Other surgeons have used it for a variety of conditions and they have made improvements in its use. I am always pleased to hear of these improvements.

RHEUMATIC CARDITIS WITH CONGESTIVE FAILURE

Presentation of a Case

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A fourteen-year-old girl entered the Kent General Hospital because of heaviness in chest, soreness in both elbows, and fever.

The patient was well until a month prior to admission when she "caught cold," had sore throat, fever, and generalized abdominal pains which lasted several days, was well for a week then had recurrence of abdominal pains and slight chest pains. She recovered from this episode after several days and attended school for about ten days when she became ill with a fever of 101, backache, a sensation of heaviness in chest, soreness in both elbows, and mild abdominal pains. Several days after the onset of these symptoms she was admitted to the hospital.

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Past history revealed measles, mumps, pertussis, and chickenpox in childhood. She had infrequent colds and earaches occasionally as a child and mild autumnal hay fever. Tonsillectomy at age nine. At age ten she had acute sore throat followed by migratory polyarthritis, subcutaneous nodules, and high fever. A diagnosis of rheumatic fever was made at that time, and the patient was confined to bed for six months. During the six months following this illness, she had what her mother described as "St. Vitus Dance." and the family was advised that she had a heart murmur. Her menses began at age thirteen and were normal.

Systemic review revealed epistaxis two weeks before admission, mild anorexia since onset of illness, no nausea or vomiting, slight cough, pain in chest, and choking sensation on deep breathing—of several days duration. No true dyspnea and no ankle edema. Usual weight—123 lbs.

Family History. A maternal aunt had rheumatic heart disease.

Physical examination revealed a sandy-haired, fourteen-year-old girl of fair complexion, fairly well developed, well nourished and in no acute distress. Temperature, 102; pulse, 100; and respirations, 22. Eyes—conjunctiva normal, fundi, negative. Ears—negative. Nose—negative. Throat—negative, except for slight post pharyngeal phlegm. Mouth—negative. Neck—negative. Lungs—resonant to percussion, no rales, breath sounds normal, expand equally. Heart—apical impulse forceful four inches to left of midline, not enlarged to percussion but increased dullness over lower end of sternum. P2 markedly accentuated, crescendo type presystolic and early diastolic murmurs heard transmitted to left axilla. Abdomen soft, no localized tenderness, no abnormal masses. Liver and spleen not palpable. Skin—no petechiae found. Pinpoint hemorrhagic lesions were scattered over both legs which she thought were due to flea bites from her dog who slept with her. Extremities—no clubbing of fingers, elbows not tender or swollen, pain occurred on active and passive motion at elbow joints.

Admission urinalysis—ph 7.0, amber color, sp. gr. 1.020. Albumin negative. Sugar negative. Microscopic — occasional RBC and WBC. Blood count showed RBC—3,160,000, Hemoglobin—75%. WBC—10,300, Differential: polys—84%. lymphocytes—3%, and monocytes—14%. Sedimentation index was 27 mm. in 60 min. with vertical type curve.

A positive diagnosis of rheumatic heart disease with mitral stenosis was made, and the present illness was thought to be due to a recurrence of acute rheumatic fever or subacute bacterial endocarditis.

On admission blood culture and blood cultures on three consecutive days thereafter all showed no growth. Chest xray revealed heart enlarged in all diameters and basal passive congestion. Electrocardiogram showed normal sinus rhythm, rate 125, notching of P waves in leads one and two, P-R interval 0.20 and right axis deviation—findings suggestive of a rheumatic process.

For eight days after admission the patient received penicillin, 50,000 units q. 3 h. with no effect on her fever. Temperature continued to range from 100 to 102 during this period. However, patient had no complaints except a sensation of heaviness in the chest. Repeated observations revealed no evidence of petechiae of skin or mucosa. About one week after admission on cardiac auscultation, a faint rough sound of unusual character with each systole was heard in the fourth interspace to left of sternum, and it was thought that a pericarditis of rheumatic origin might be developing. In the absence of any positive findings of subacute bacterial endocarditis a tentative diagnosis of active rheumatic myocarditis and rheumatic pericarditis was made: penicillin was discontinued and patient treated with sodium salicylate gr. xxx q. 4 h. The temperature dropped to 98.8, but after one day's treatment she developed marked tinnitus. Salicylate was discontinued. The next day she had a slight erythematous, macular, patchy rash about her neck, trunk, forearms, and knees. A final sedimentation index was 19 mm. in 60 min. Eleven days after admission the patient was transferred "unimproved" to a university hospital for further study and treatment.

At the university hospital on admission her temperature was 101.6, pulse 120, respirations 24, blood pressure 105/60 and positive findings on physical examination were—weight 107 lbs. A fairly well developed, well nourished, white female of fourteen who appeared chronically ill, with moderate pallor of the skin and a light malar flush. There was a splinter hemorrhage under the third right fingernail, no petechiae, no distention of cervical veins. Cardiac examination—heart overactive and enlarged to both right and left. Fullness in the region of the pulmonic conus. Diastolic thrill at apex and a diastolic tap in the pulmonic area. On auscultation, the first mitral sound was snapping and preceded by a crescendo diastolic murmur and followed by a blowing, systolic murmur. The second pulmonic sound was accentuated. To the left of the sternal border in the third and fourth interspaces, there was a blowing diastolic murmur continuous with the second sound. Abdomen—flat, liver one f. b. below the c. m. Rectal examination normal, no clubbing of fingers or toes, no arthritis, neurological examination normal.

Laboratory data: STS, negative. RBC 4.2 million. Hgb. 11 gms. Ht. 35. Sed. rate, 57/34. WBC 8,000. Differential normal. Urine: amber, clear, sp. gr. 1.030, acid, sugar negative, albumin negative; microscopic, 4-5 WBC per hpf. Stool examination normal. No occult blood. NPN, 20-48 mgm.%. Chloride, 89-104 m. eq. per liter. CO2 combining power, 23-30 m. eq. per liter. Fasting sugar, 94 mgm.%. Cholesterol, 167 mgm.%. Bilirubin 1.4 mgm.%. Total serum protein, 6.3 to 7.7 gms.%. Albumin 4.0 to 4.8 gms.%. Globulin, 2.3 to 3.9 gms.%. Alkaline phosphatase activity, 3.5 units. Urea clearance, 75% normal maximum clearance. PSP. 62-65% excretion in two hours. Salicylate level, 97-204 gamma per cc. Venous pressure, 104-135 mm. of saline. Circulation time, 18 seconds, decholin method. Vital capacity, 1200 cc. EKG on admission: Normal sinus rhythm. PR interval .12 seconds. Right axis deviation. P1 notched. Tracing compatible with rheumatic heart disease. Blood cultures: Thirty-six blood cultures taken. Thirty-two cultures sterile. Four different organisms were obtained from the remaining four cultures, all probable contaminants. Cultures were grown aerobically and anaerobically under carbon dioxide and in several media. Throat culture: Normal throat flora. Cephalin flocculation positive, 3 plus. Tuberculin PPD, first test dose, negative. Xray of chest on admission showed heart considerably enlarged, triangular in outline with fullness in the region of the pulmonic conus and some congestive changes in the lung fields.

Course. The patient appeared acutely and chronically ill on admission to the hospital. She was thought at that time to be suffering from active rheumatic pancarditis. The possibility that she might also have subacute bacterial endocarditis was also entertained. She was placed on bed rest and treated with aspirin, four gms. daily, which she tolerated only fairly well. Despite salicylate therapy, her temperature rose on one occasion to 103.2 during the two week period in which she received this medication. Ten days after the initiation of aspirin therapy, the patient developed an urticarial eruption together with nausea and tinnitus. Because of her apparent sensitivity to aspirin, this drug was discontinued two weeks after it was started. At this time, her temperature averaged about 99.6 and she had moderate tachycardia; she also developed several new splinter hemorrhages beneath her nails. Following the discontinuance of salicylates, her temperature rose slightly.

Because of a fall in hemoglobin from 11 to 8 gms., the patient received a transfusion of 500 cc. of blood three weeks after admission, and again four days later. Since it was considered possible that the patient had subacute bacterial endocarditis, penicillin therapy with six million units daily by i. m. injection was begun. At this time, she had developed slight clubbing of her fingers. Penicillin was continued for seven days, a total of 43,500,000 units being administered. There was no significant effect upon her temperature. Penicillin therapy was begun again two weeks after her first course and during the next week she received 67,000,000 units of penicillin. Five days after initiation of second penicillin course by continuous intravenous drip, the patient went into acute pulmonary edema and was digitalized with lanatoside C. This measure, coupled with the discontinuance of the i. v. infusion was followed by a prompt restoration of cardiac compensation. Interestingly, the patient's temperature which had been rising to 102 or 103 prior to the discontinuance of penicillin, fell to 100 after the chemo-therapeutic agent was stopped.

During the next week, her temperature remained essentially unchanged following which it began gradually to rise to levels fluctuating between 101 and 103. Despite persistently negative blood cultures, it was decided once again to attempt penicillin therapy and three weeks after last course (about the second month of hospitalization) the constant infusion of 25,000,000 units of penicillin daily in 5% glucose solution was begun. On the day after this was begun she began to have auricular fibrillation confirmed by EKG and became acutely ill. Her liver increased in size; she developed nausea and vomited. During the next two days, quinidine was administered in an unsuccessful attempt to restore the patient's cardiac rhythm to normal. Penicillin therapy was discontinued after the administration of 100,000,000 units in this course. Five days later the patient's cardiac rhythm reverted spontaneously to sinus rhythm. At this time, it was observed that the patient's Hgb. had fallen to 7.5 gms.

Because of her poor cardiac reserve, she was transfused on two occasions with washed red cells suspended in 5% glucose. Following these transfusions, her hemoglobin rose to 11 gms. and remained at this value until her discharge from the hospital. Throughout her stay on the ward, it was uncertain whether this patient had subacute bacterial endocarditis. Although she had several crops of splinter hemorrhages and occasional petechiae in the buccal mucosa along the line of dental closure, at no time did she have hemorrhages in her fundi, or hematuria. On several occasions, the tip of her spleen was thought to be palpable, but the presence of definite splenic enlargement could never be determined with certainty. Her WBC fluctuated between 7,000 and 11,000.

After an interval of three or four days following her last penicillin treatment, treatment with amidopyrine was begun following which the patient's temperature fell promptly and during the next week showed diurnal variations between 97.6 and 99.8. The patient tolerated this drug with some difficulty, and its use was discontinued for a short period following which her temperature rose to 101. Following the readministration of amidopyrine, her temperature fell again to levels slightly above normal. In the week prior to discharge an EKG revealed sinus tachycardia. PR interval 0.16 seconds. T waves inverted in leads 2 and 3. Tracing shows digitalis effect. At this time the patient developed a high pitched musical component to the systolic murmur which had been audible previously in the mitral and apical areas. This murmur had the characteristics associated usually with active rheumatic fever. At no time during her stay in the hospital did the patient have joint symptoms. Because of her relatively static condition and her intense desire to return to her home, she was allowed to leave the hospital.

Clinical Impression. Rheumatic heart disease, active, with mitral stenosis and insufficiency, aortic insufficiency, cardiac enlargement and failure. Paroxysmal auricular fibrillation and subacute bacterial endocarditis. Sensitivity to salicylates.

The patient was discharged three months after admission, unimproved, with instructions to remain at complete bed rest at home, to take a cardiac normal 4 gm. salt diet, and digitalis 0.1 gm. five days a week, also amidopyrine 0.3 gm. twice daily, and to seek the care of her family physician.

The patient got along fairly well for about a month after her return from the university hospital, but in spite of careful treatment for congestive heart failure, gradually developed increasing dependent edema, dyspnea and orthopnea. Adequate digitalization was insufficient to maintain her in a compensated condition, and recourse to mercurial diuretics was taken. She received frequent injections of 1 cc. salyrgan and initially these were followed by prompt diuresis and reduction in edema, but after repeated injections she developed oliguria and failed to show any improvement. Her temperature continued to be elevated somewhat until after about two months at home when it became subnormal and persisted at subnormal levels until the last examination recorded.

At the last examination, two and a half months after her discharge from the university hospital and about seven months after the onset of her symptoms, the patient was orthopneic, pale and emaciated in appearance. Temperature, subnormal, 95, pulse 112, MSR—but thready. Respirations 36, shallow and difficult, no petechiae of skin, mucous membranes, or fundi. Lungs—coarse, bubbling rales at both bases. Heart—murmurs as previously described but apical impulse prominent in the 6th interspace, anterior axillary line, and demonstrable enlargement to percussion—both of left ventricular border and to right of sternum, prominent venous pulsations in neck veins and distention. Abdomen—liver, two f. b. below cm., marked distention of abdomen with dullness to percussion and fluid wave, pitting edema of sacrum and trunk posteriorly as high as costovertebral angles and four plus pitting edema of both lower extremities.

Final Clinical Diagnosis. Rheumatic Heart Disease, Active Congestive Heart Failure, Severe.

Autopsy. Several days following the last recorded examination, the patient died and autopsy was performed. The body which retained some antimortem heat was that of a young girl. There was edema of the sacral region, genitalia, and lower extremities. On opening the chest a small amount of free fluid was found in both pleural cavities, and thin pleural adhesions, bilaterally. There were some dense, tough, diaphragmatic adhesions on the left. Over the anterior surface of the pericardium was a heavy network of blood vessels. Pericardium was thick and everywhere adherent to the epicardium with fibrinous adhesions. There was no free pericardial fluid. Heart weighed 610 gms.; it was enlarged and the chambers dilated. Myocardium of right ventricle was two times normal thickness while that of left ventricle was one and one half times normal thickness. Papillary muscles hypertrophied and columnae carneae prominent, the endocardium over about one-third of surface of left atrium was irregularly roughened with dull red patches. Tricuspid valve leaflets were slightly thickened and fused; a row of minute gray vegetation extended along the entire contact edge. The pulmonary valve appeared normal. Mitral valve leaflets likewise thickened, fused and roughened along the contact edge with a row of minute, slightly red vegetations. There was a similar thickening of aortic leaflets with vegetation along the contact edge and slight fusion of commissures. There was stenosis and probable regurgitation of the tricuspid, mitral, and aortic valves.

The peritoneal cavity contained several liters of straw-colored fluid; liver was somewhat enlarged and smooth with prominent markings; spleen small and firm.

Microscopic examination of sections from heart, pericardium, spleen, liver and kidney were reported by pathologist* as follows:

Heart: The myocardial cells are enlarged, and the fibers are separated by edema fluid. The pericardium is covered with a layer of granulation tissue through which there is a slight infiltration of lymphocytes. The aortic valve is irregularly thickened with a mass of hyaline connective tissue. Small blood vessels extend out into the thickened portion and are accompanied by a few lymphocytes. There is a small projection from the thickened surface. This consists of the same connective tissue, but it is edematous. The surface of the mass is covered with a smooth thin layer of endothelium, and there is nothing to suggest bacterial endocarditis. Careful search through the heart sections shows no evidence of the so-called "Aschoff's bodies."

Pericardium: A section of the parietal pericardium is covered with young scar tissue and granulation tissue through which there are numerous lymphocytes and monocytes.

Spleen: The organ is markedly congested, but shows no other pathology.

Liver: There is a marked degree of passive congestion characterized by distension of the sinusoids around the hepatic veins. The distension is so great that the adjacent liver cells are frequently squeezed out of existence. The congestion extends over half way toward the portal spaces around which the liver cells appear normal.

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* Dr. Douglas M. Gay, Wilmington.

Kidney: Blood vessels are markedly congested. The epithelium of the convoluted tubules is swollen and the lumens of these tubules contain albuminous fluid.

Anatomical Diagnosis.

1. Rheumatic Heart Disease
   Tricuspid, mitral, and aortic stenosis
   Hypertrophied heart
   Pericarditis
2. Congestion of viscera, hydrothorax, ascites, and edema of lower extremities.
3. Pleural adhesions.

Discussion

The clinical type of rheumatic fever illustrated in this case is the subacute polycyclic type, which has been well described by Griffith.[1] In this type of rheumatic fever the mortality is greatest. With repeated cycles of activity, the most extensive cardiac enlargement and the most frequent signs of endocarditis and pericarditis are found. During one or all of the cycles pneumonitis may occur. After the first cycle polyarthritis is usually absent, and the response to salicylate therapy is poor. Congestive heart failure complicating carditis occurs almost exclusively in this group of cases.[1]

Penicillin therapy for subacute bacterial endocarditis was instituted in this case in the absence of positive diagnostic criteria. The result of the penicillin treatment confirms previous observations that penicillin is not beneficial, and may be harmful in rheumatic fever except for intercurrent infections.[2]

Intravenous glucose administered as 25 cc. of 50% solution twice daily partially covered with 10 units of insulin plus an increase of the oxygen content of the inspired air to about 45 to 50% oxygen has been advocated in the treatment of selected patients with rheumatic carditis and congestive failure.[3] In this case, valvulitis and pericarditis were the predominant pathological changes, with the result that there was extensive mechanical cardiac disability in the presence of rheumatic activity.

Intravenous glucose and oxygen were not used in this case. However, in view of the mechanical disability of the heart it is doubtful that anything could have been accomplished by this form of therapy other than to prolong the patient's life for a short interval.

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RUPTURE OF THE UTERUS[*]

A Case Report with Review of Literature

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In February, 1947, we had one case of rupture of the uterus and because of the rarity of that complication we present the following:

It occurs most often during labor but may occur any time during the last trimester of pregnancy. The condition was first recognized and described by Guillemau, (1550-1613). The majority of cases are preventable, according to Drs. P. B. Bland and L. Goldstein. The incidence is highly variable, depending mostly on frequency of contracted pelvis. In Bucharest it was 1:300 deliveries; in Royal Maternity Hospital in London 1:6124; in Baltimore at Johns Hopkins 1:1010; at Boston City Lying In 1:1188; at New York Lying In 1:2260; University Hospital in Cleveland 1:2756; and in China 1:220.

The rupture in the majority of cases is of the complete type, meaning through the peritoneum. It may occur spontaneously and under this heading some authors, such as Dr. Bland include only those due to uterine abnormalities. More often it happens during some operative procedure, and this is termed traumatic. With the spontaneous cases some very interesting findings have been noted by Dr. Eastman and he considered them as contributory factors: (1) The average age rather high, above 36 years; (2) average parity, 6.4; (3) contraction of pelvis in 41.2% of the cases; (4) average weight of fetus 3946 grams (8 lbs., 11 oz.).

The most frequent causes are weak Caesarian scars, version and extraction deliveries, administration of oxytocics, and instrumental deliveries. Dr. Bland listed them anatomically: (1) those by the pelvis from contraction, malformation, or neoplasms; (2) by the uterus from scars of prior operations, dry labors with retraction ring, acquired or congenital cervical stenosis, neoplasms, or pendulous abdomens with anteflexion of the uterus; (3) by the foteus from malposition and mal-presentation, overdevelopment of foetus, hydrocephalus, foetal neoplasms, multiple gestations, or monstrosities; and (4) those by external causes such as manual dilatation of cervix, version, instrumental delivery, manual extraction of placenta, administration of oxytocics and external violence of abdominal wall.

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[*] Read before the Monthly Staff Meeting, Milford Memorial Hospital, May 13, 1947.

In regards to previous Caesarean sections, all writers advocate repeated sections in cases of contracted pelvis. Some including Bill, Barney, and Melody of Cleveland, and Tollefson of California urge "once a section always a section." As for the type, all reports show there are less ruptures in subsequent pregnancies with the low cervical. Holland reported 25% after classical type, with 3% after low cervical. At the Chicago Lying-In Hospital none in 1000 low cervical Caesarians; and Bill, Barney and Melody, of Cleveland, stated that all their ruptures followed classical. Yet they also say: "Always a section after the first." The repeated section should be done about two weeks prior to expected confinement.

All writers have put version and extraction deliveries very high on the list of causes. This is easily understood as there is a lot of increased tension and pressure on the uterus during the procedure.

As for oxytocics, nearly every report places them second to maternal and foetal disproportion. Dr. De Lee has been quoted to say that indiscriminate use of pituitrin is one of four major causes responsible for persistently high maternal and foetal death rates in the United States. He considered the use of pituitrin as a criminal act if it was given before delivery of child.

The most constant symptoms of the complete type are cessation of labor and generalized abdominal pain and tenderness. Frequently the patient feels a sudden tearing during a strong uterine contraction. Severe shock rapidly develops and continues unless effective treatment is soon started. Palpation of the abdomen gives a sensation of baby being just under the skin.

The most important thing is to recognize the symptoms and findings indicating impending rupture. Bland and Goldstein has listed them as: (1) prolonged labor with progressively stronger and more violent pains; (2) acceleration in maternal pulse rate from 80 per minute to 120-160, associated occasionally with an elevation in temperature; (3) ascent of contraction ring to a level between the pubis and navel at times approaching level of umbilicus; (4) general exquisite abdominal tenderness with marked tension of lower abdominal pain; (5) drawn and anxious facial expression showing an excessive degree of suffering; (6) swelling and discoloration of pinched vaginal portion of cervix; (7) gradual rise of foetal heart rate in intervals between uterine contraction indicating circulatory embarrassment as a result of excessive pressure from prolonged contractions.

The proper treatment is surgery as soon as the condition of patient will permit. Transfusions of whole blood are the best stimulant, but one should use any intravenous fluids until blood is available. In some cases the uterus has been repaired after delivery of the baby and placenta, but as a whole it is better to do a hysterectomy, as there is less chance for severe infection, and a subsequent pregnancy in a previously ruptured uterus is very dangerous.

The mortality rate for the mothers is very high—20% in some centers, but it depends entirely in how soon the condition is recognized. The foetal mortality is much higher—80% or more.

There are recorded some very unusual cases. Dr. Bland observed a rupture in a patient who had barely reached her sixth month. Two years prior she had been delivered by Caesarean section. Dr. B. H. Carroll, of Toledo, also observed a spontaneous rupture without warning, in a 22-year-old woman who was only eight months pregnant. She had had a low section at age 19 for placenta previa and a spontaneous delivery at age 21. Schwartz and Kurzrok, of Brooklyn, reported in 1936 a case in which the ureter had been ruptured. There are several instances of finding lacerations of the cervix extending up into the body of the uterus after apparently normal spontaneous deliveries, and also after application of low forceps. In practically all of these there was record of pituitrin having been given to stimulate labor prior to delivery of foetus. Bleeding following delivery was the key to the situation, causing investigation of the cervix. Drs. Sinclair and Miller, of Whiteville, North Carolina, had a case with rupture following spontaneous delivery of first baby of a twin pregnancy. Previous uterine infection, myomectomy, plastic operations on the cervix have been contributing factors in some cases reported.

At the Milford Memorial Hospital there have been, since 1933 through 1946, over 3200 deliveries, with two cases of rupture of the uterus. Considering the number of complications that are referred to here, this is an excellent record of which the whole staff should be proud. The first case was in March, 1933, in a woman who had had four previous normal deliveries. Prior to her admission she had been given repeated small doses of pituitrin to accelerate labor. A Porro section was done, with delivery of a dead baby. She made an uneventful recovery.

The second case occurred in February, 1947, with a 38-year-old woman who had had two previous normal spontaneous deliveries. Her first labor in 1942 was only six hours long and the baby weighed $8\frac{3}{4}$ pounds. The second labor was in 1944 and only four hours in duration; that baby weighed $9\frac{1}{4}$ pounds. The third pregnancy had been uneventful until she went into labor at the end of term about 4 p. m., February 9, 1947. She progressed well with increasing contractions until about 1:00 a. m., when she was found to be almost fully dilated. Shortly afterward the pains ceased and remained so. At 7:00 a. m. she was in shock and complaining of general abdominal pain. After administration of intravenous plasma a laparotomy was done with extraction of a dead male foetus from the peritoneal cavity. The baby weighed more than 10 pounds. There was a long tear in the left side of the body of the uterus extending down through cervix into the vagina. A supravaginal hysterectomy was done. She had received no pituitrin or external stimulation at all during labor. Evidently the complication was due to over-development of the foetus. She recovered nicely. However, on the fifth post-operative day she developed signs of phlebothrombosis of the right leg and immediately a bilateral ligation of her superficial femoral veins was done. Her temperature rapidly subsided and returned to normal four days later. She was discharged on her eighteenth post-operative day. She was seen six weeks later, April 7, 1947, and was then able to do the greater part of her housework with no marked difficulty. Although she noted slight edema at night of her right ankle, there was no pitting edema at this examination.

In conclusion, the important points to remember are: (1) one should be alert to avoid a false sense of security with multiparas; (2) be quick to diagnose prior to onset of labor any disproportion, either due to minor contraction of pelvis or over-development of baby; (3) prevent rupture of old operative uterine scars; (4) avoid as much as possible version and extraction procedures; and (5) do not use oxytocics prior to delivery.

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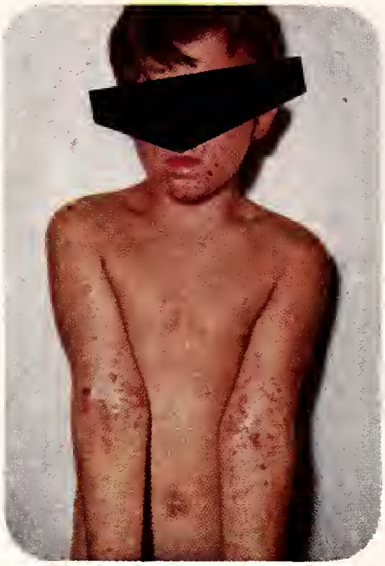

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DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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Articles are accepted for publication on condition that they are contributed solely to this Journal. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Subscription price: $2.00 per annum, in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

Vol. 19 June, 1947 No. 6

One Hundred Years of Organized Medicine

The waves lashing the beach at Atlantic City with a million years of froth to their credit may laugh at the idea of a centennial celebration. But when we consider the progress of the past century as compared to the eons through which the Indians passed, singing, dancing, drumming, and rattling evil spirits away, the progress of American medicine has been phenomenal.

Even though Cabeza de Vaca, the shipwrecked Spaniard, initiated surgery on this continent in the present state of Texas with a sharp stone in the early part of the sixteenth century, there was little constructive progress before the American Medical Association was organized. The first American medical history was published in 1828. This was James Thacher's *American Medical Biography*. The next was by Stephen West Williams in 1845. This biographical material, dealing with the hardy, courageous physicians chiefly along the eastern seaboard, indicated that a solid foundation was being prepared for the American Medical Association, which was organized in 1847. It is to be hoped that when the modern medical great enter upon their centennial felicitations in Atlantic City this June, they will not forget the pioneer American physicians who went through "hell and high water" to give the profession stability of character and to prepare the way for scientific progress. Aside from the epoch-making discovery of general anesthesia, which was demonstrated at the Massachusetts General Hospital one year before the American Medical Association was founded, and aside from the control of yellow fever, American medicine has made no epochal advances but has contributed much toward national and international weal. It has given to the people of the United States the best medical service to be had anywhere in the world today.

The question arises, has the American Medical Association always made the most of its opportunities? Carried along with the last half century's scientific progress, the American Medical Association, in the opinion of the writer, has lost a great opportunity in the field of legitimate lay publicity. It was natural to be satisfied with the progress of scientific medicine and to assume public satisfaction. But the truth though crushed to earth is rising. The mass ignorance concerning the meaning of medical progress and its value to the individual and to society is appalling. In retrospect it is natural to wonder if the American Medical Association might not have more effectively educated the public as to the personal and general value of medicine as practiced in the United States today. The American Medical Association could have gone directly to the public with a sustained educational program and indirectly through the general practitioner who needed to be alerted and stimulated. Perhaps it is not too late. The next hundred years will tell.
Editorial, *J. Okla. S. M. A.*, June, 1947.

MISCELLANEOUS

The Problem of Specialty Boards

Speaking to the American Orthopedic Association in 1947, Dr. J. Albert Key in his presidential address voiced alarm because of the rigidity of the standards set up by the various specialty boards to determine the qualifications of the practitioners of medicine or surgery who wish to be admitted to the practice of their professions as qualified specialists. We quote from the standards set up by the American Board of Orthopedic Surgery:

1. One year rotating internship.
2. One year in adults' orthopedic surgery.
3. One year in children's orthopedic surgery.
4. One-half year internship in fractures.
5. One-half year full-time study of fundamental subjects: anatomy, pathology, bacteriology, physiology, and biochemistry.
6. Two years in practice limited to orthopedic surgery.

To those interested in the qualifying of specialists by boards we recommend the close reading of Dr. Key's address, which we cannot reprint here.[1]

We defy any millionaire aspirant—one to whom time and money are no object—to find the internships which are required by the American Board of Orthopedic Surgery. If he could, he would then be stymied by item No. 5; and after he had passed that, how could he serve two years in the practice of orthopedic surgery as required in item 6? He is still unqualified. How could the Board recommend that? According to them, he should be restrained from practicing as a specialist without their license, though qualified by the state or national boards to practice medicine and surgery.

There is thus created a dilemma. The specialty boards have assuredly done an excellent and praiseworthy job of elevating standards. Nobody would undo that work. But in all uplifting there is a point beyond which too many other values must be sacrificed to gain one objective. Has that point been reached?

Of course there must be qualifications set up for the fitness of those who exercise over the rest of us that power of life and death. Hitherto this has been done by the State Board Examinations and by the reputation—good or bad—which a surgeon acquired in his community. The judgment of his peers. Remember?

We feel that to allow self-styled, self-appointed specialists to crown themselves as censors to determine the qualifications of others to earn their living in a certain way can be dangerous.

Is there not a place in the practice of the profession of surgery for men to have drifted along in it and by some freak of fortune—war, for example—find themselves with an absorbing interest in orthopedic surgery, or plastic surgery, or any specialty for which their general experience and their later interest makes them qualified? The Board system takes us back to the medieval days of Henry VIII, when the surgeons, forced to unite with the barbers, set up the rigid apprenticeship and guild system, a partnership from which they were not able to escape until 1740.

Examiners on boards are rarely omniscient. May we remind the members of these boards, who are now so blithely setting the standards for their successors, that, brilliant men as they may be, outstanding as they are in the specialties, they are older men who never had to pass such examinations themselves and, if faced with them, could probably not do so now.

Our purpose in raising the question of present practices in qualifying doctors as specialists is not pointless criticism of the boards, but sincere evaluation of method, and some remarks on possible abuses. The boards have done too much good to risk having their work jeopardized by a senseless wave of reaction.

There must be a moderate course realistically related to human and economic values which could preserve the gains without sacrifice of abilities obtained through simple experience. We know of no way to improve matters except by raising the question for free discussion.

We realize that these associations, these boards, are set up out of zeal for the protection of the people. With the passage of the years many of them seem to have been invaded by the corruption of the self-interested. Those who are now in, being after all human beings, are potentially able to keep others out. They could reserve their privileges for their sons, their assistants—in short, for their successors. We fear a reversion to the guild system. We seem to remember that the "common man" did a pretty good job of protecting himself in the past. He simply stayed away from the incompetent practitioner and let him starve to death.

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[1] Key, J. Albert: J. Bone & Joint Surg. 29: 2, January, 1947.

To those of our readers who are really interested in every aspect of this perplexing problem we recommend an article in the *Saturday Evening Post* of March 15, 1947 (Vol. 219, No. 37, page 23) by Comdr. W. J. Lederer, USN.

He got himself into Annapolis and subsequently attained his present rank without any formal training. He devoted sedulous and unflagging attention to the care of the *head*. It's a good idea.—Editorial, *N. Y. S. J. M.*, June 15, 1947.

Cash Sickness Benefits for Railroad Workers

A cash sickness benefit system for railroad workers began operating throughout the nation on July 1. These benefits were added under the 1946 amendments to the Railroad Unemployment Insurance Act and provide partial compensation for wage loss due to disability on the same basis as that due to unemployment.

All disabilities which prevent railroad employees from working, regardless of how or where they occur, are covered under the program.

A physician's statement of sickness will be required before claims can be paid. It is believed that the program will require about 65,000 medical examinations a year. Employees are free to choose their own doctors, and any physician to whom an employee goes for examination or treatment may supply the information required as initial proof of an employee's claim.

The forms on which medical information will be requested from a physician are the "Statement of Sickness" and the "Supplemental Doctor's Statement." The first mentioned form is intended primarily to obtain information at the beginning of each illness, and the second is intended to obtain additional information only when such information is needed later on in the same illness. The statements are designed to furnish as simply and as conveniently as possible for the physician, the minimum information required for Board purposes.

The "Statement of Sickness" on which the medical evidence is to be furnished must be mailed to the appropriate office of the Railroad Retirement Board within seven days after the first day claimed as a day of sickness, or the employee may lose part of his benefits. Claims for succeeding fourteen day periods may be allowed for a predetermined period as indicated by the medical evidence on the doctor's initial statement, but in continuing illnesses supplemental information about the patient's illness may also be requested from the physician.

Claims will be filed and adjudicated in the regional offices of the Railroad Retirement Board. These offices are located in Atlanta, New York, Cleveland, Chicago, Dallas, Kansas City, Minneapolis, Denver and San Francisco and serve the adjoining territories. Each will have a physician who will act as a medical consultant. Additional information about the program may be obtained from any of the aforementioned offices.

Too often it is assumed that the control of tuberculosis is solely the health department's domain of action. This is not true, nor can it ever be true, so long as men practice the ancient art of medicine. The family doctor in the city, the country doctor going about from farm to farm, the village doctor in his office over the drug store know the people, have their trust, and guide their physical destinies. The educational pamphlets of a hundred organizations cannot have the enduring effect nor the permeating persuasiveness of the doctor's personal word.—Herman E. Hilleboe, M. D., Pub. Health Rep., Dec. 6, 1946.

Good medical care is rarely cheap, and cheap medical care is rarely economical.—N. Y. Acad. Med. Rep. on Med. in Changing Order, Commonwealth Fund, 1947.

BOOK REVIEWS

Pharmacopoeia of the United States of America, 13th Revision (U. S. P. XIII). Pp. 957. Cloth. Price, $8.00. Easton, Pennsylvania: Mack Publishing Co., 1947.

This is the official opus of the U. S. Pharmacopoeial Convention and contains monographs on some 642 medicinals. It is the first of the "five year" revisions, the previous ones having been ten year revisions. Also, for the first time the English titles precede the Latin ones, with obvious advantages. It became official on April 1, 1947. The purchase price entitles the buyer to a copy of a bound supplement, should one become necessary. The U. S. P. is a sine qua non for all those who manufacture or prepare medicinals.

A History of the American Medical Association: 1847-1947. By Morris Fishbein, M. D., with the Biographies of the Presidents of the Association by Walter L. Bierring, M. D., and with Histories of the Publications, Councils, Bureaus, and Other Official Bodies. Pp. 1226. Illustrated. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

This book is published in recognition of the 100th Anniversary of the American Medical Association celebrated at the Centennial Session in Atlantic City, June 9-13, 1947. It is written for a general audience as well as for the medical profession. It reviews the rise of the Association as a great organization, and has reference particularly to the campaigns to raise the standard of medical education, to eliminate quackery, to improve industrial health, to eliminate nostrums and frauds in the medical field, and to provide a wide distribution of a high quality of medical care. All of these interests are of public as well as medical importance.

Delaware's only A. M. A. President (1867), Henry Ford Askew, is briefly sketched. His photograph is a new one to us, evidently much later than the one in "The Medical Society of Delaware: 1789-1939," by Dr. Meredith I. Samuel, of Wilmington.

Fishbein, Bierring and Company have done an outstandingly good job of writing, and that praise applies equally to the job of printing, done by the Saunders Company who, despite the late arrival of considerable copy (e. g., Dr. Askew's signature, which we personally know was difficult to locate) met their deadline just in time to present the first copy to President Bortz at the Centennial Convention. Naturally, in such a rush job, there are typographical errors, but surprisingly few; silliest is caption on p. 160, where Askew's successor, Samuel D. Gross (1805-1884), appears as President in 1898! In the text (p. 612) the year is given correctly as 1868. We blame the copy more than the compositor. So, congratulations to both companies.

Derived from carefully preserved official records, this history is really authoritative, and is recommended to all, physicians and laymen alike, who are interested in American medicine and American medical care. Especially recommended to Messrs. Wagner, Murray, Dingell, Pepper et al., for obvious reasons.

A Textbook of Medicine. Edited by Russell L. Cecil, M. D., Professor of Clinical Medicine, Cornell University Medical College; with assistance of Walsh McDermott, M. D., Associate Professor of Medicine, Cornell University Medical College. Associate Editor for Diseases of the Nervous System: Harold G. Wolff, M. D., Associate Professor of Neurology, Cornell University Medical College. Seventh Edition. Pp. 1730, with 244 illustrations. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

This new Cecil represents an increase over the sixth edition of 164 pages of text, and 48 illustrations. Because of war conditions 54 subjects had to be rewritten by new contributors. In addition, 16 new subjects are included. Several sections have been rearranged. The list of contributors totals 162, selected especially because of their knowledge of this particular subject.

The format shows a slightly larger page, and retains the double columns which proved so popular in the previous edition, as well as the tables of normal values for clinical examinations immediately preceding the index.

Cecil is still one of the leading texts of American medicine. We have the impression we see more quotations from it than from any other. This seventh edition will be much quoted too.

Diseases of Metabolism—Detailed Methods of Diagnosis and Treatment—A Text For The Practitioner. Edited by Garfield G. Duncan, M. D., Director of Medical Division, Pennsylvania Hospital; Clinical Professor of Medicine, Jefferson Medical College, Philadelphia. Second edition. Pp. 1045, with 167 figures, 8 in colors. Cloth. Price $12.00. Philadelphia: W. B. Saunders Company, 1947.

The title of this book eminently befits its contents. Covering all the material usually found in such a work, it comes over, logically, into the realms of nutrition, endocrinology, and hematology. New chapters covering the thyroid gland and the kidneys have been added. Each chapter has been brought up to date, the latest researches being included, except those that have little or no practical application at the present time. Controversial subjects have been largely omitted. An appendix includes tables of composition of foods, height and weight, and basal energy requirements.

With one exception, ample space has been given to each subject. We think the chapter on Undernutrition, meaty as it is, might have been amplified considerably. We find the patients complaining about being "too skinny" outnumber those bemoaning their adiposity: these latter folk generally do not bemoan at all—they laugh at it.

We heartily recommend the book.

Surgical Pathology. By William Boyd, M. D., Professor of Pathology, the University of Toronto, Canada. Sixth edition. Pp. 858, with 530 illustrations, including 22 color figures. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

Boyd's object was to present those aspects of pathology which would prove useful to the surgeon. That he succeeded is evidenced by the appearance of a sixth edition. His text correlates the living pathology of the operating room with the basic dead pathology of the autopsy room, and abounds in practical clinical points of diagnosis that often point the way to proper treatment. The style is quite readable—compact yet not terse, good example, the two pages on Peritoneal Adhesions.

An entirely new section has been added dealing with the pathology of congenital heart disease. Other new material includes tumors of the larynx, pinealoma, Bittner's milk factor in relation to breast carcinoma, avitaminosis in mouth cancer. The Papanicolaou vaginal smear in cervical cancer, nodules dysplasia of bone, inflammatory nodules of muscle in chronic arthritis, and fibrositis of the back.

This actually is a Pathology for the surgeon; it needs no commendation from us.

Diseases of the Chest: With Emphasis on Xray Diagnosis. By Eli H. Rubin, M. D., Attending Physician, Division of Pulmonary Diseases, Montefiore Hospital and Country Sanatorium, New York; Visiting Physician in Tuberculosis and Physician-in-charge, Chest, Clinic, Morrisania City Hospital, New York. Pp. 685, with 355 illustrations, 24 in color. Cloth. Price, $12.00. Philadelphia: W. B. Saunders Company, 1947.

The complete description of any one of the described diseases, with its etiology, pathology, xray study, medical and surgical phases, treatment might well consume an entire book. The author, however, has merely sketched the commoner diseases, as well as some of the more frequent neoplasms.

While the work contains many excellent radiographic reproductions, one is impressed by the text, which indicates the relative ease and reliance upon the fluoroscopic study alone. This reviewer, however, is of the opinion that physicians planning the study of chest diseases may be misled by the brevity and implied ease with which sufficient information may be acquired.

The book impresses us as an excellent "quiz compend."

Harofe Haivri

The Spring issue of Harofe Haivri (the Hebrew Medical Journal), a semiannual bilingual publication, contains, in the medical section, the articles on the clinical use of streptomycin, anticoagulant therapy in the treatment of thrombosis and narcoanalysis and narcosynthesis. The section on Palestine and Health contains an enlightening statistical survey on the health of the young generation of Palestine, and a paper on the historical and archaeological aspects of the hot springs of Tiberias.

Under the heading of historical medicine there is a treatise on medical ethics by Asaph the physician, who lived in the 9th century.

The original articles are summarized in English to make them available to those who are unable to read Hebrew.

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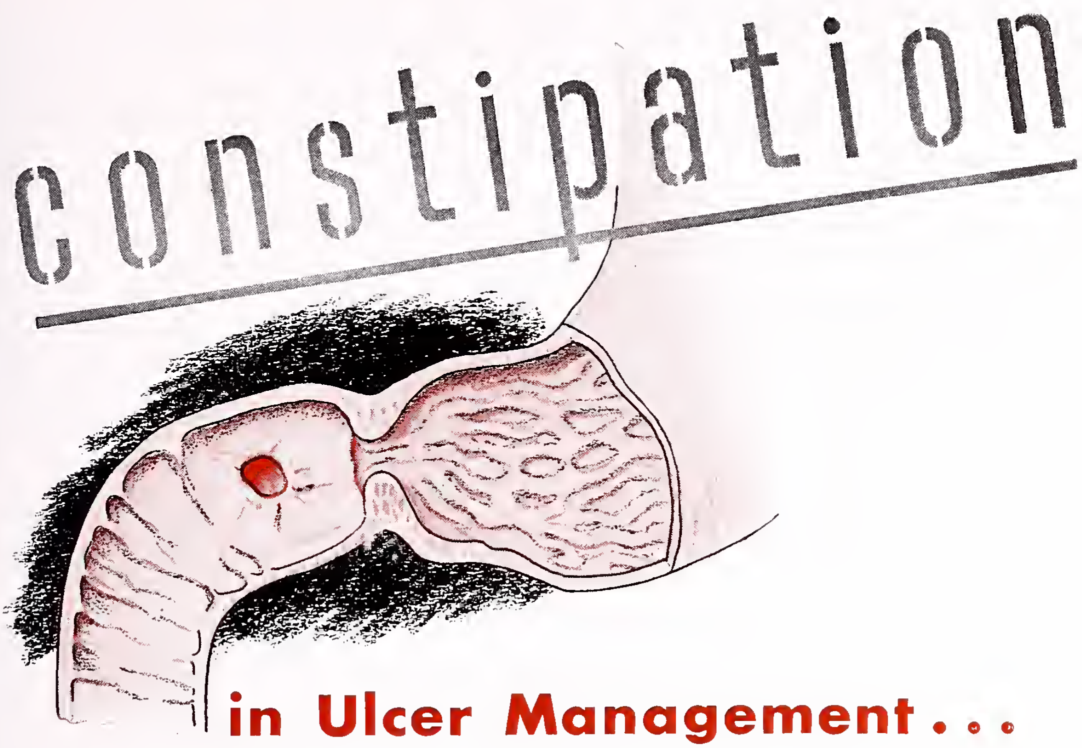

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—Portis, S. A.: Diseases of the Digestive System, ed. 2,
Philadelphia, Lea & Febiger, 1944, p. 199.

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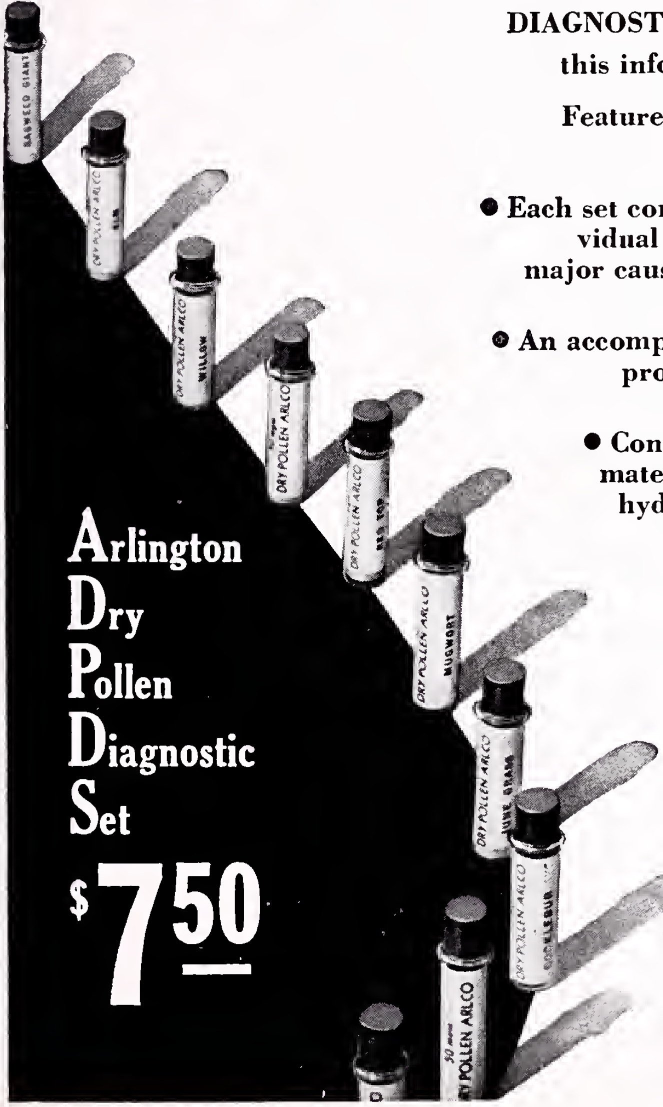

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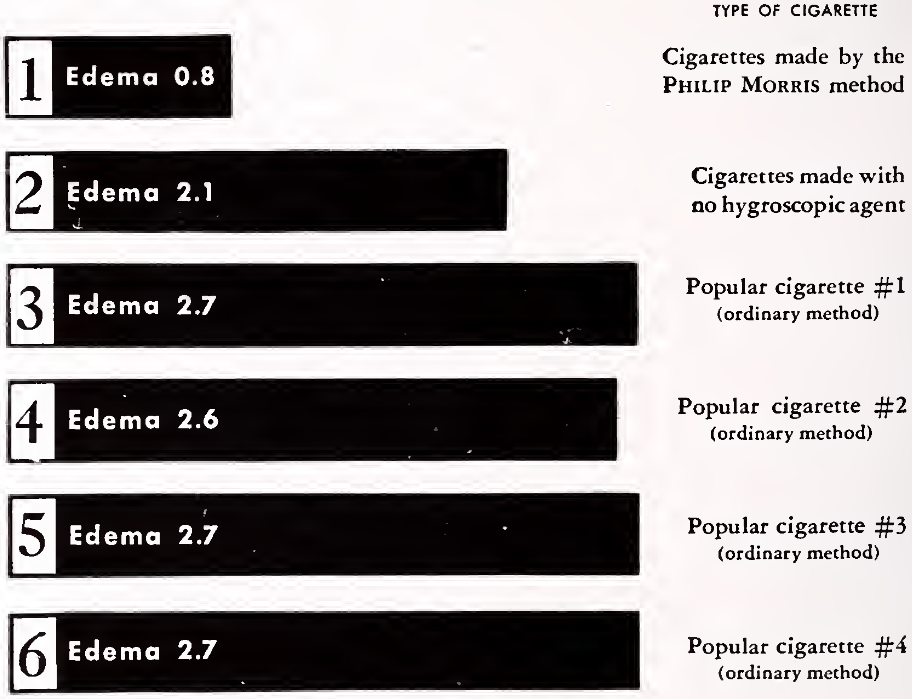

CONCLUSION:* Results show that regardless of blend of tobacco, flavoring materials, or method of manufacture, the irritation produced by all ordinary cigarettes is substantially the same, and measurably greater than that caused by PHILIP MORRIS.

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*Vital Statistics—Special Reports: Vol. 25, No. 12, National Office of Vital Statistics, Washington, D. C. (Oct. 15) 1946, p. 206.

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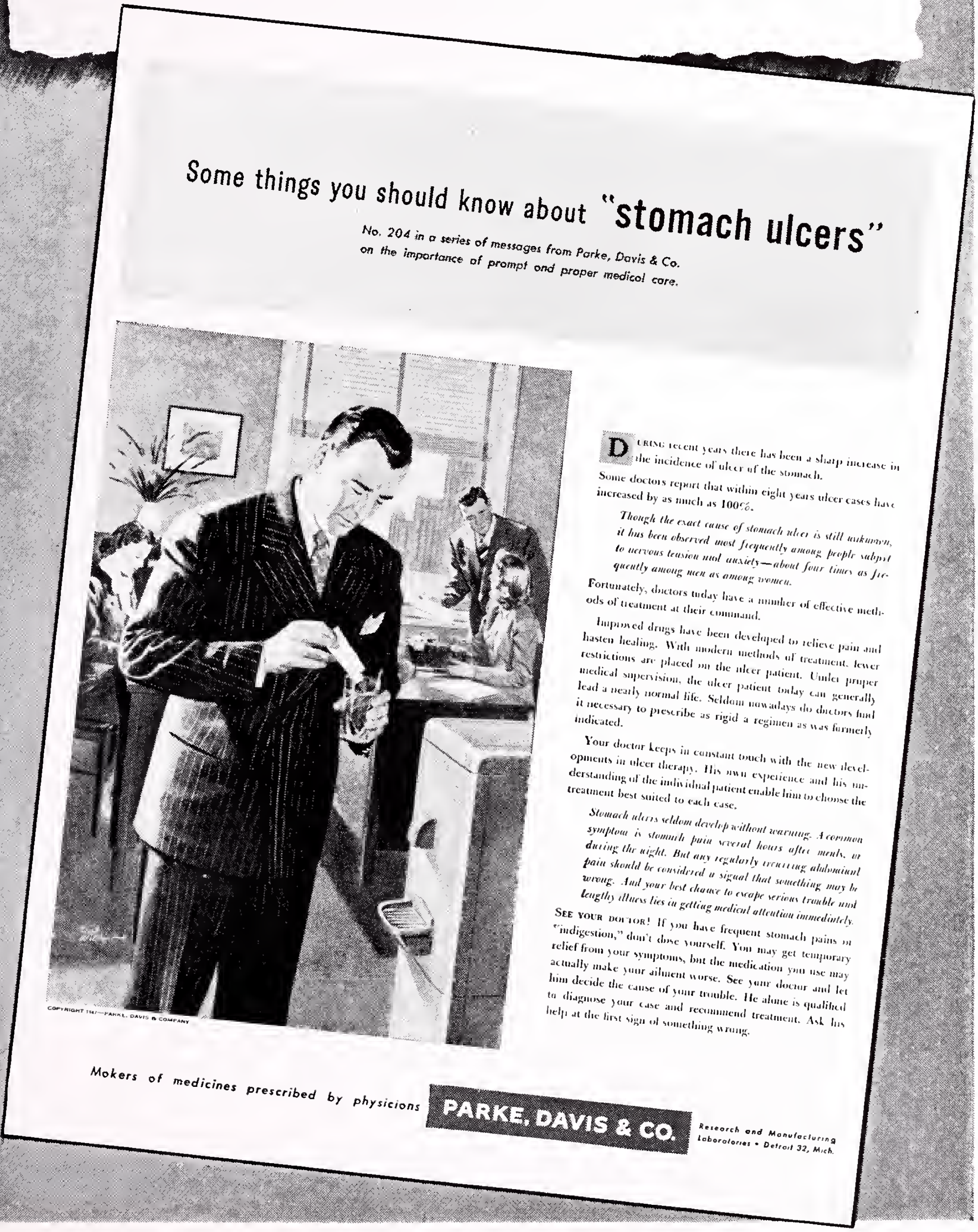

Some things you should know about "stomach ulcers"

No. 204 in a series of messages from Parke, Davis & Co. on the importance of prompt and proper medical care.

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During recent years there has been a sharp increase in the incidence of ulcer of the stomach.

Some doctors report that within eight years ulcer cases have increased by as much as 100%.

Though the exact cause of stomach ulcer is still unknown, it has been observed most frequently among people subject to nervous tension and anxiety—about four times as frequently among men as among women.

Fortunately, doctors today have a number of effective methods of treatment at their command.

Improved drugs have been developed to relieve pain and hasten healing. With modern methods of treatment, fewer restrictions are placed on the ulcer patient. Under proper medical supervision, the ulcer patient today can generally lead a nearly normal life. Seldom nowadays do doctors find it necessary to prescribe as rigid a regimen as was formerly indicated.

Your doctor keeps in constant touch with the new developments in ulcer therapy. His own experience and his understanding of the individual patient enable him to choose the treatment best suited to each case.

Stomach ulcers seldom develop without warning. A common symptom is stomach pain several hours after meals, or during the night. But any regularly recurring abdominal pain should be considered a signal that something may be wrong. And your best chance to escape serious trouble and lengthy illness lies in getting medical attention immediately.

See your doctor! If you have frequent stomach pains or "indigestion," don't dose yourself. You may get temporary relief from your symptoms, but the medication you use may actually make your ailment worse. See your doctor and let him decide the cause of your trouble. He alone is qualified to diagnose your case and recommend treatment. Ask his help at the first sign of something wrong.

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*Based on average reported values for milk.

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NOT LONG AGO, the Secretary of the United States Treasury studied a figure-covered sheet of paper.

The figures revealed a steady, powerful upswing in the sale of U. S. Savings Bonds, and an equally steady decrease in Bond Redemptions.

But to the Secretary, they revealed a good deal more than that, and Mr. Snyder spoke his mind:

"If you give them the facts," he said, "you can always depend on the common sense and long-range judgment of the American people.

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"After the Victory Loan, sales of U. S. Savings Bonds went down—redemptions went up. And that was only natural and human.

"It was natural and human—but it was also dangerous. For suppose this trend had continued. Suppose that, in this period of reconversion, some 80 million Americans had decided not only to stop saving, but to spend the $40 billion which they had *already* put aside in Series E, F & G Savings Bonds. The picture which *that* conjures up is not a pretty one!

"But the trend did NOT continue.

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What do the figures show?

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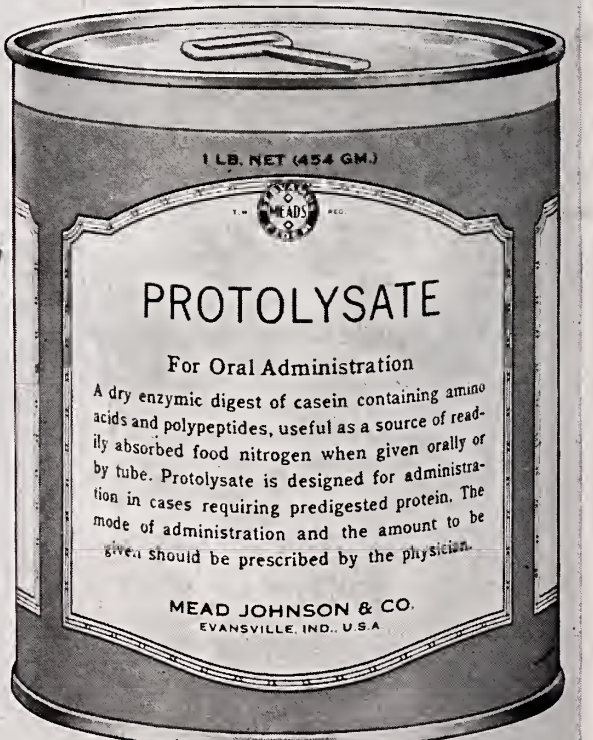

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

BACKGROUND

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THE use of cow's milk, water and carbohydrate mixtures represents the one system of infant feeding that consistently, for over three decades, has received universal pediatric recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

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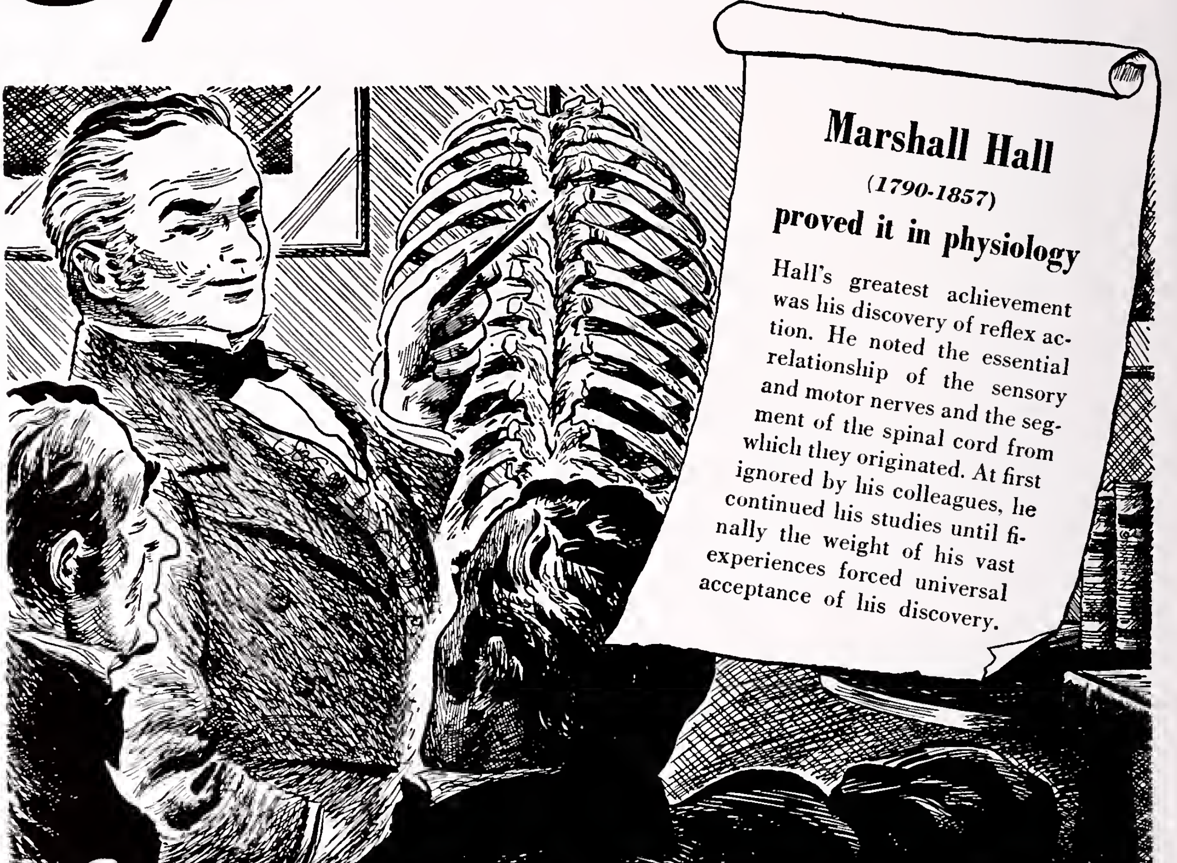

Marshall Hall

(1790-1857)

proved it in physiology

Hall's greatest achievement was his discovery of reflex action. He noted the essential relationship of the sensory and motor nerves and the segment of the spinal cord from which they originated. At first ignored by his colleagues, he continued his studies until finally the weight of his vast experiences forced universal acceptance of his discovery.

Yes, experience is the best teacher in smoking too!

IT WAS their experience during the wartime shortage of cigarettes which taught people the big differences in cigarette quality. People smoked many different brands then—whatever brand was available. And so many more smokers came to prefer Camels as a result of that experience that now more people are smoking Camels than ever before. However, no matter how great the demand, *we don't tamper with Camel quality. Only choice tobaccos, properly aged, and blended in the time-honored Camel way, are used in Camels.*

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In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetic allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

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Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetic requirements and aesthetic preferences. They are made available to you by Cosmetic Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

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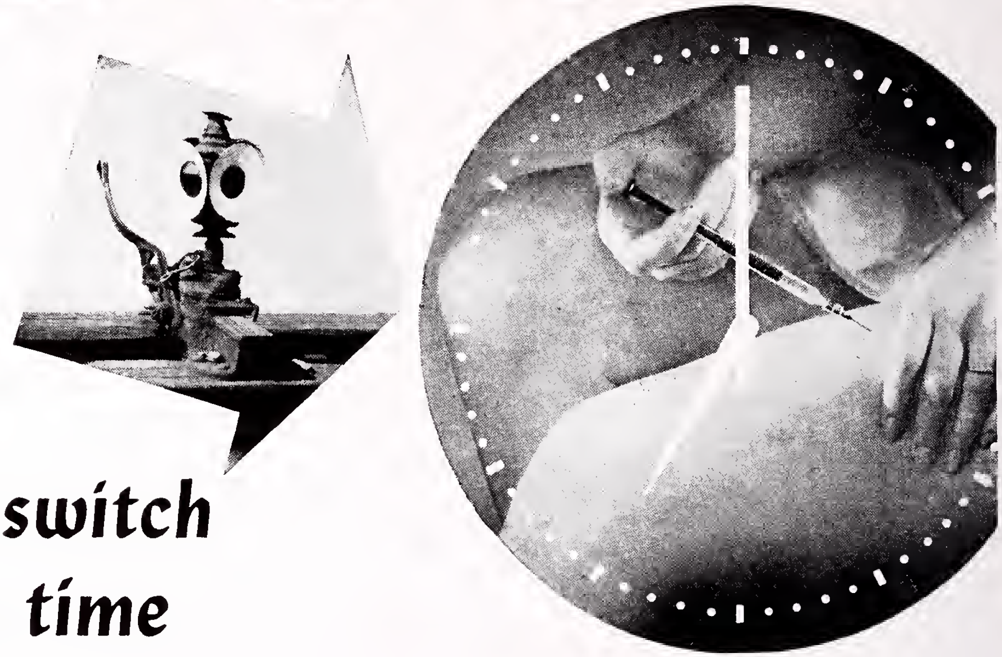

a switch in time

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Most mild and many moderately severe cases may be controlled by *one daily injection of 'Wellcome' Globin Insulin with Zinc.* Vials of 10 cc.; 40 and 80 units per cc. Developed in The Wellcome Research Laboratories, Tuckahoe, New York. U.S. Pat. 2,161,198. Literature on request.

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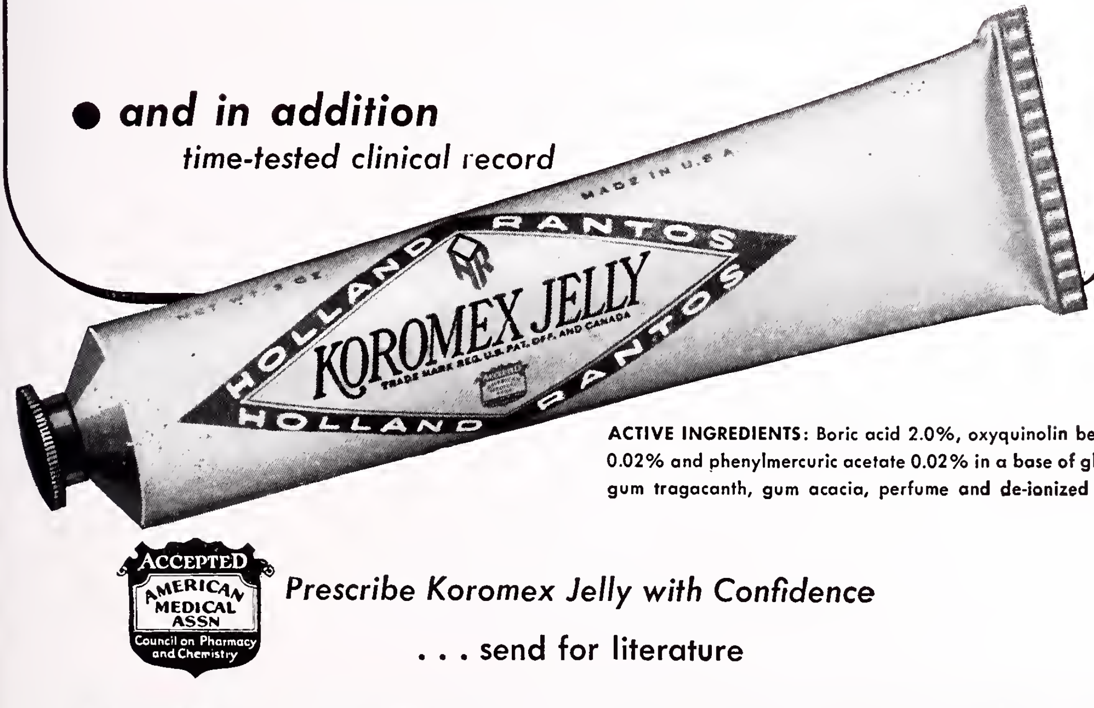

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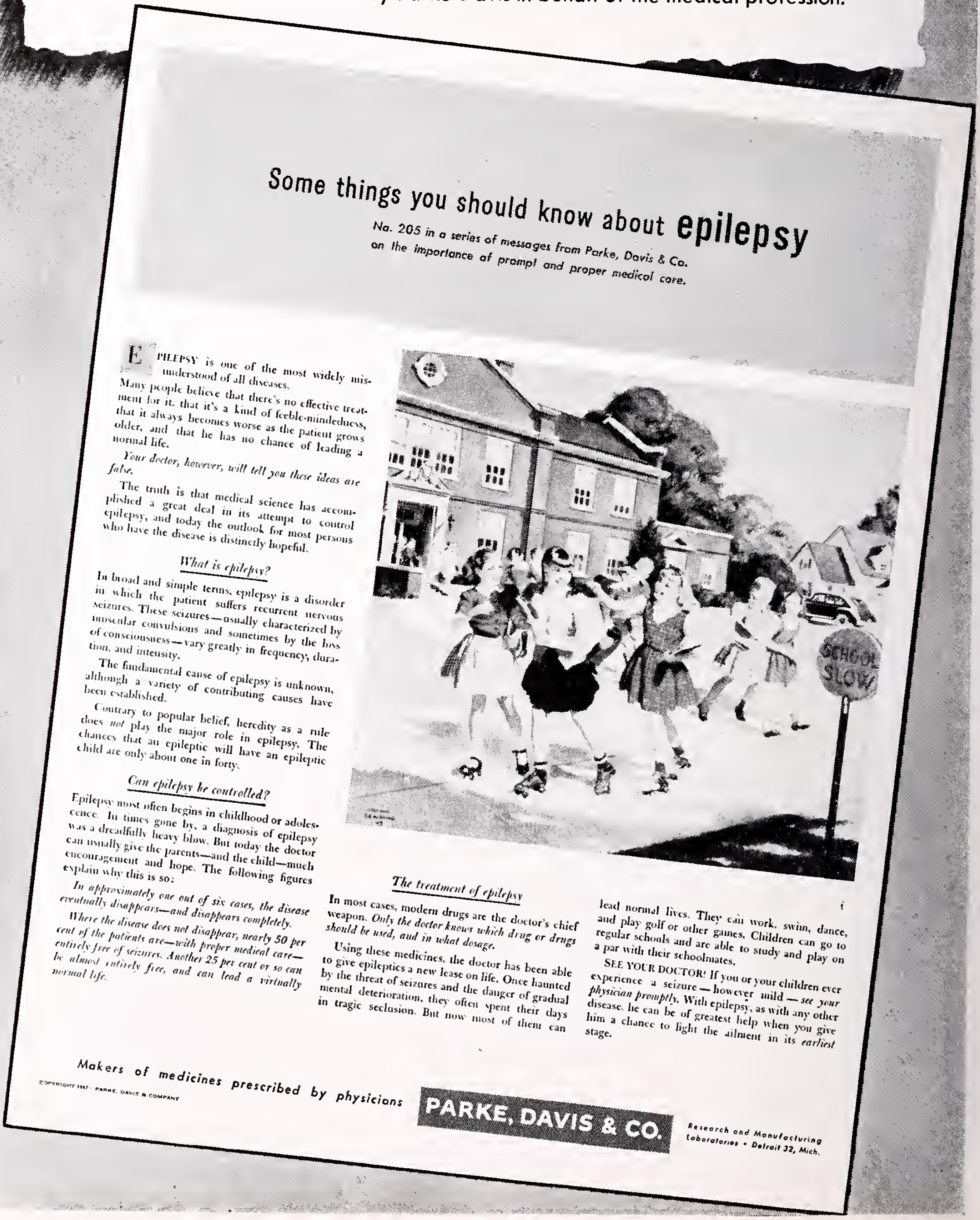
Some things you would like your patients to know about Epilepsy

The educational message on Epilepsy, shown below, will appear in full color in LIFE and other national magazines . . . reaching an audience of more than 22 million people. This is No. 205 in the "See Your Doctor" series, published by Parke-Davis in behalf of the medical profession.



Some things you should know about epilepsy

No. 205 in a series of messages from Parke, Davis & Co. on the importance of prompt and proper medical care.

EPILEPSY is one of the most widely misunderstood of all diseases.

Many people believe that there's no effective treatment for it, that it's a kind of feeble-mindedness, that it always becomes worse as the patient grows older, and that he has no chance of leading a normal life.

Your doctor, however, will tell you these ideas are false.

The truth is that medical science has accomplished a great deal in its attempt to control epilepsy, and today the outlook for most persons who have the disease is distinctly hopeful.

What is epilepsy?

In broad and simple terms, epilepsy is a disorder in which the patient suffers recurrent nervous seizures. These seizures—usually characterized by muscular convulsions and sometimes by the loss of consciousness—vary greatly in frequency, duration, and intensity.

The fundamental cause of epilepsy is unknown, although a variety of contributing causes have been established.

Contrary to popular belief, heredity as a rule does *not* play the major role in epilepsy. The chances that an epileptic will have an epileptic child are only about one in forty.

Can epilepsy be controlled?

Epilepsy most often begins in childhood or adolescence. In times gone by, a diagnosis of epilepsy was a dreadfully heavy blow. But today the doctor can usually give the parents—and the child—much encouragement and hope. The following figures explain why this is so:

In approximately one out of six cases, the disease eventually disappears—and disappears completely.

Where the disease does not disappear, nearly 50 per cent of the patients are—with proper medical care—entirely free of seizures. Another 25 per cent or so can be almost entirely free, and can lead a virtually normal life.

The treatment of epilepsy

In most cases, modern drugs are the doctor's chief weapon. *Only the doctor knows which drug or drugs should be used, and in what dosage.*

Using these medicines, the doctor has been able to give epileptics a new lease on life. Once haunted by the threat of seizures and the danger of gradual mental deterioration, they often spent their days in tragic seclusion. But now most of them can lead normal lives. They can work, swim, dance, and play golf or other games. Children can go to regular schools and are able to study and play on a par with their schoolmates.

SEE YOUR DOCTOR! If you or your children ever experience a seizure — however mild — *see your physician promptly*. With epilepsy, as with any other disease, he can be of greatest help when you give him a chance to fight the ailment in its *earliest* stage.

Makers of medicines prescribed by physicians

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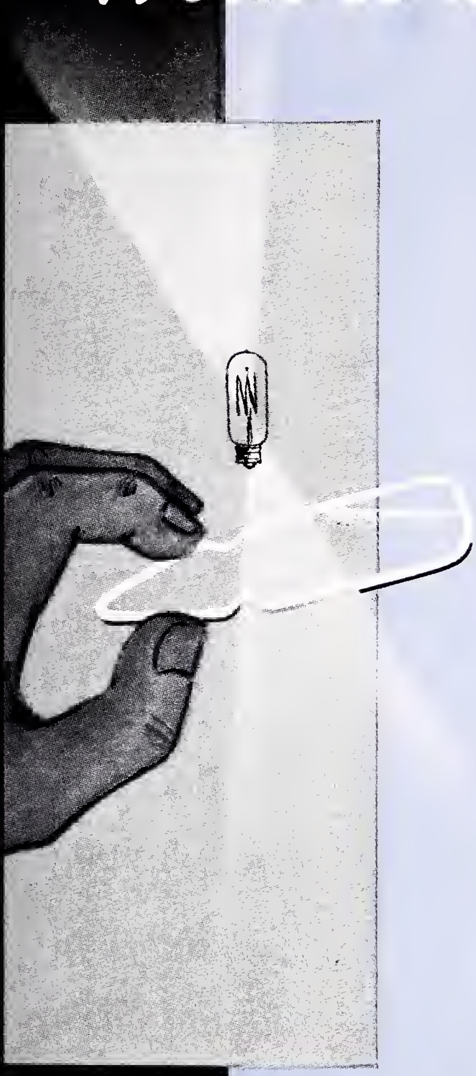

Hold it up to the Light!

A life may depend on the purity and clarity of the urographic contrast medium to be injected intravenously. NEO-IOPAX, a superior solution for intravenous pyelography, is triple checked through every stage of its preparation for exact composition and sterility, and then inspected repeatedly for the presence of extraneous foreign matter.

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Neo-Iopax

disodium N-methyl-3,5-diiodo-chelidamate

Hold your contrast medium up to the light before injecting it. You will find NEO-IOPAX solutions sparkling and crystal clear—a good index of the care with which they have been processed. Naturally, we take pride in the NEO-IOPAX safety record, based on hundreds of thousands of injections.

NEO-IOPAX, stable solution of disodium N-methyl-3,5-diiodo-chelidamate, is available in *water-clear glass ampules only*, in 50 and 75% concentrations.

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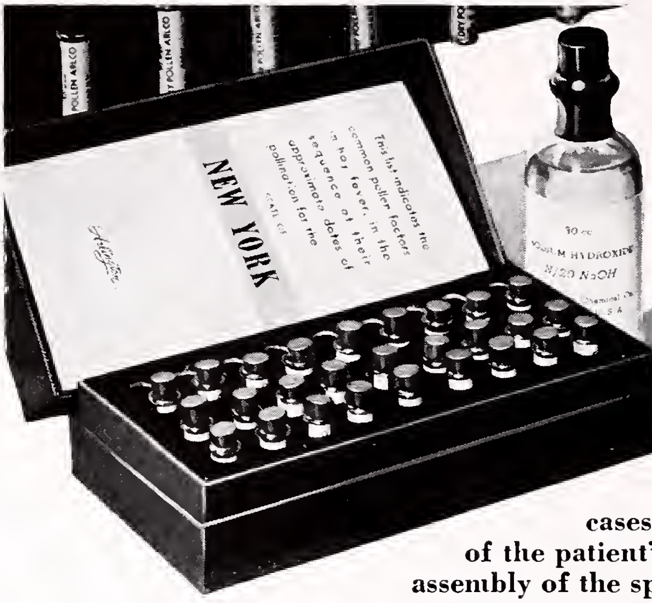
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This list indicates the common pollen factors in hay fever, in the sequence of their approximate dates of pollination for the
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30 cc
SODIUM HYDROXIDE
N/20 NaOH

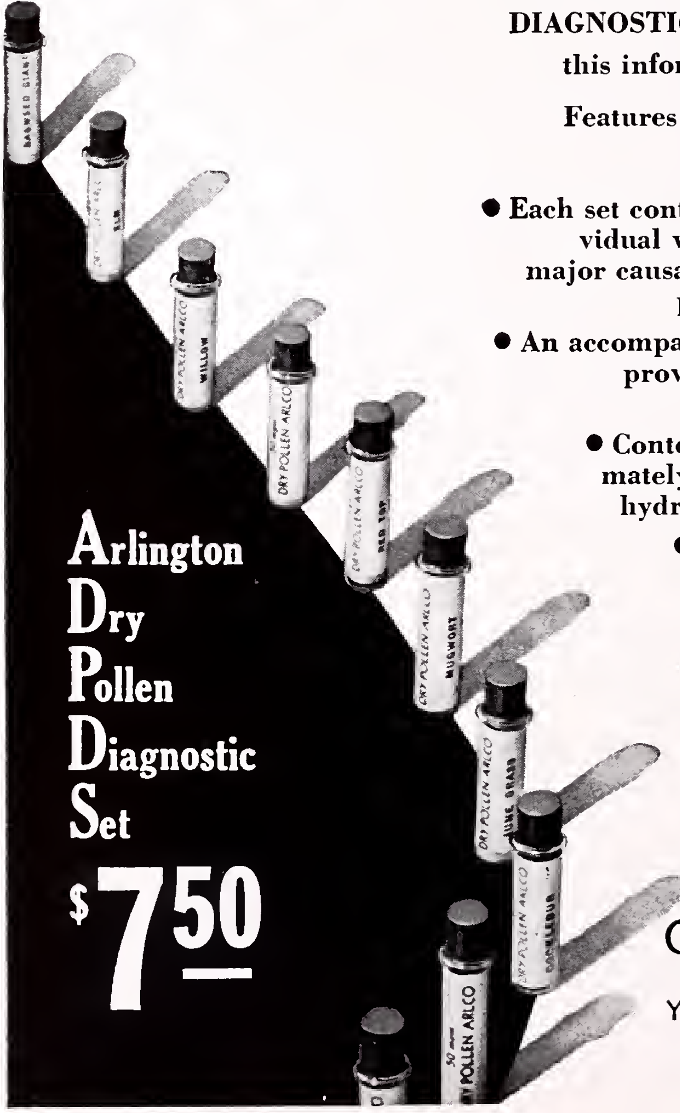
POLLEN ASSEMBLY

Successful management of hay fever cases is dependent upon accurate diagnosis of the patient's pollen sensitivities. By providing an assembly of the specific offending pollens indigenous to the particular area, the ARLINGTON DRY POLLEN DIAGNOSTIC SETS help the physician to obtain this information promptly and conveniently.

Features of the ARLINGTON DRY POLLEN DIAGNOSTIC SET

- **Each set contains a minimum of 23 vials of individual wind-borne pollens representing the major causative factors in the patient's locality, plus a vial of House Dust Allergen;**
- **An accompanying regional pollinating schedule provides useful information on which to base testing procedures;**
- **Contents of each vial suffice for approximately 30 tests; a supply of N/20 sodium hydroxide is included for use as a diluent;**
- **Accurate testing is afforded by the simple scratch technique.**

The Biological Division of The Arlington Chemical Company will be glad to cooperate with you on your allergy problems.



Arlington Dry Pollen Diagnostic Set

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1. Extensive clinical experience has established that the combined use of an occlusive diaphragm and a spermatocidal jelly affords the optimum in protection to the patient.

2. A comprehensive report shows an overwhelming preference for the diaphragm-jelly technique of conception control. In a survey comprising 36,955 cases, clinicians prescribed this method for 34,314 or 93 per cent.[1]

3. Warner,[2] in a study of 500 cases in private practice, concludes that the combined technique is the most efficient method; there was no case of unexplained failure.

4. For the optimum of protection and simplicity in use we suggest the "RAMSES" Prescription Packet NO. 501 . . . a complete unit, containing a "RAMSES" Patented Flexible Cushioned Diaphragm of prescribed size, a "RAMSES" Diaphragm Introducer of corresponding size, and a large tube of "RAMSES" Vaginal Jelly.† Available through all prescription pharmacies. Complete literature to physicians on request.

[1] Human Fertility 10: 25 (Mar.) 1945.

[2] Warner, M. P.: J.A.M.A. 115: 279 (July 27) 1940.

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On the Plus Values In Variety Meats

Variety meats—as the meat industry terms liver, kidney, heart, thymus (sweetbreads), and tongue—are at least as nutritionally desirable as muscle meat. In fact, in some respects certain organ meats are superior.

They provide the indispensable amino acids in the same advantageous complete assortment as muscle meat. Hence their protein is of the same high biologic value, capable of meeting every protein need of the organism. Quantitatively their protein content is approximately equal to that of muscle meat.

For hemoglobin synthesis, liver and kidney have been found superior not only to all other protein sources so far studied but also to muscle meat itself.

All organ meats are good sources of the B-complex vitamins. Some of them, such as liver and kidney, are especially rich in niacin. Liver is also an excellent source of vitamin A.

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The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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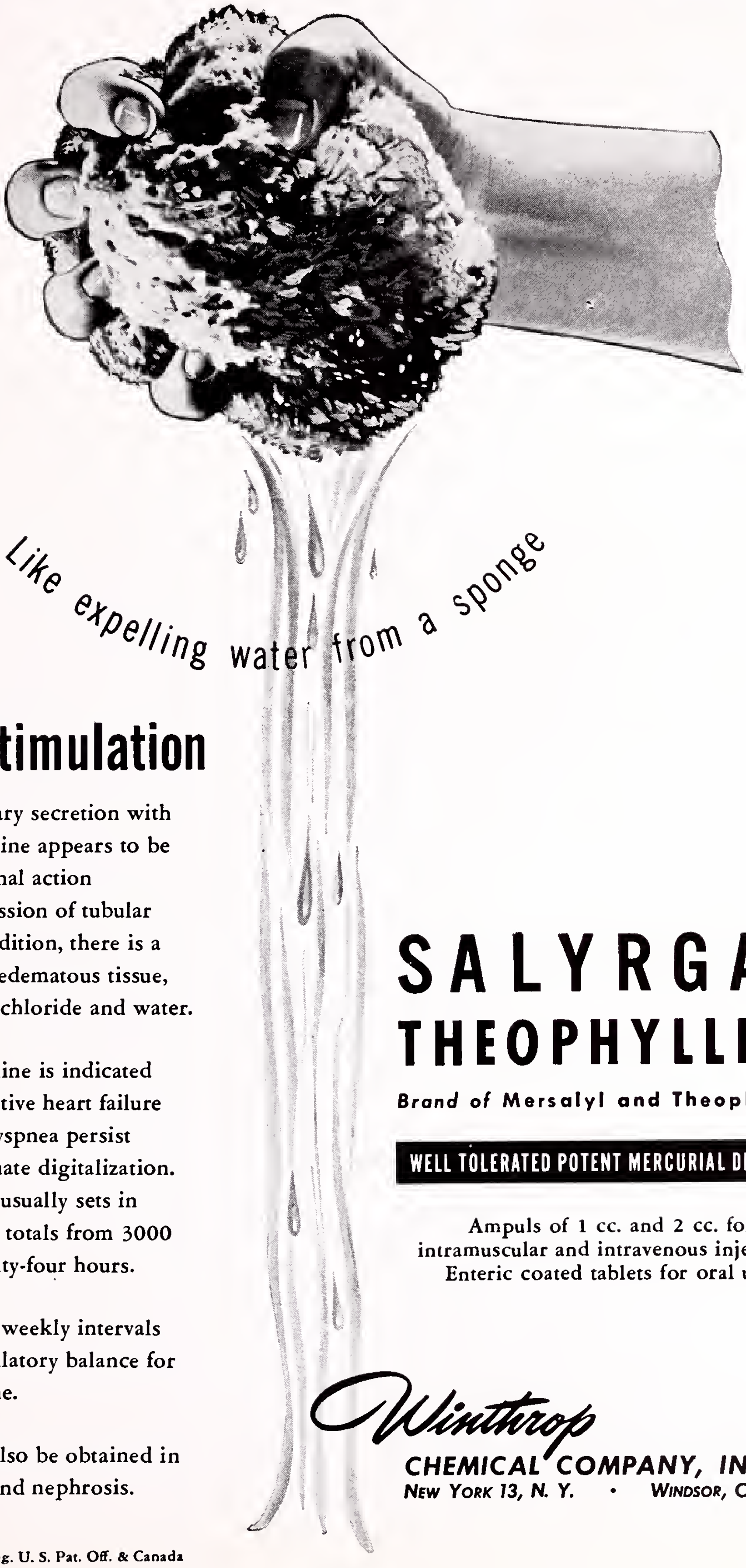
Like expelling water from a sponge

Urinary Stimulation

Stimulation of urinary secretion with Salyrgan-Theophylline appears to be due chiefly to its renal action consisting of depression of tubular reabsorption. In addition, there is a direct influence on edematous tissue, mobilizing sodium chloride and water.

Salyrgan-Theophylline is indicated primarily in congestive heart failure when edema and dyspnea persist after rest and adequate digitalization. Gratifying diuresis usually sets in promptly and often totals from 3000 to 4000 cc. in twenty-four hours.

Injections at about weekly intervals help to insure circulatory balance for long periods of time.

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Ampuls of 1 cc. and 2 cc. for
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Who shall assess the long war against the power of Death?
Or set a sum upon the gift of Life?
There is a service beyond the measure of a fee.
A cause above remuneration.
An ideal for which there is no price.
This is the service...the cause...the ideal...of the American doctor.
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How much for the laughter of a little child rescued out of crisis?
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Who can pay for a sleepless night?
Name the price of a cure!

AMERICAN DOCTOR

rendered...”

There is no algebra for it, no scribble of figures, no proper value.
For this is a service as large as life, and as manifold.
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It is the terrible word “Why?” under the surgeon's probe.
It is the end of pain.
It is Hope.
It is the lonely, unending quest for knowledge.
It is the fight against ignorance, sloth, superstition.
It is the dumb, unspeakable joy in the eyes of a parent.
It is the rock of grief.
It is cold rain and pounding storm and bone-weariness and the
new-born babe gasping its first breath in the grey dawn.
It is all this, and the quiet glory of the job done,
Dedicated to service—in the name of Mercy
And the common brotherhood of man.

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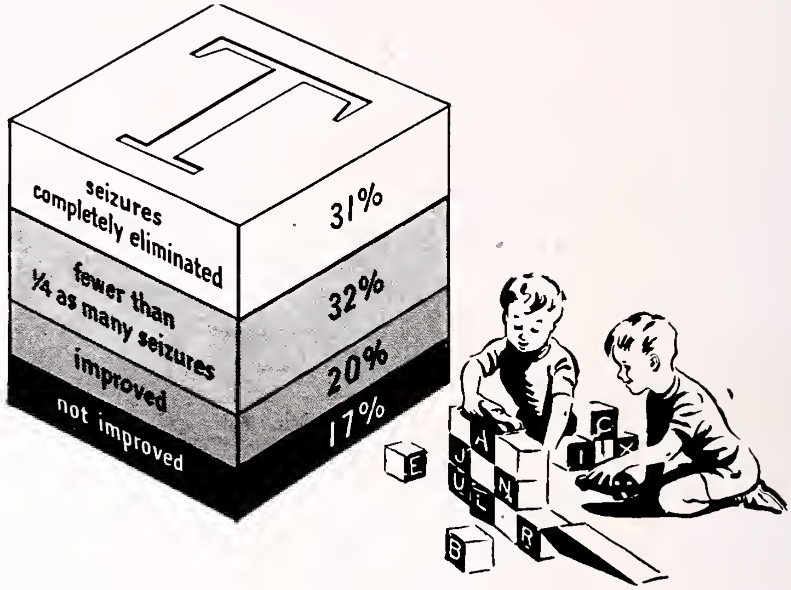

83% of petit mal cases improve with Tridione

Here's new evidence of the effectiveness of Tridione in the treatment of petit mal. In a recent study, Tridione was given to 166 patients suffering from petit mal (pyknoepilepsy), myoclonic jerks or akinetic seizures.[13] This group as a whole had received but mediocre benefits from other medicaments. With Tridione, 31% of the 166 became free of seizures; 32% had fewer than one-fourth of the previous number of seizures; 20% improved to a lesser extent; 13% remained unchanged, and only 4% became worse. *Thus 83% showed improvement.* In some cases the seizures *did not return* after Tridione was discontinued, the longest seizure-free period thus far being 18 months. Studies also have shown that Tridione is of benefit to certain psychomotor patients when given in conjunction with other antiepileptic drugs.[12] Tridione is available through your pharmacy in 0.3-Gm. capsules and in pleasant-tasting aqueous solution containing 0.15 Gm. per fluidrachm. Capsules in bottles of 100 and 1000; solution in 1-pint and 1-gallon bottles. If you wish to know more about Tridione, just write to ABBOTT LABORATORIES, North Chicago, Illinois.

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Menopausal
Relief...
Plus
A General
Sense of
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While sodium estrone sulfate is the principal estrogen in "Premarin," other equine estrogens . . . estradiol, equilin, equilenin, hippulin . . . are also present as water soluble sulfates. The water solubility of conjugated estrogens (equine) permits rapid absorption from the gastrointestinal tract.

CONJUGATED ESTROGENS
(equine)

"Premarin"®

AYERST, McKENNA & HARRISON Limited
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DO YOU KNOW WHAT THESE SYMBOLS STAND FOR?

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SOLUTION LIVER EXTRACT
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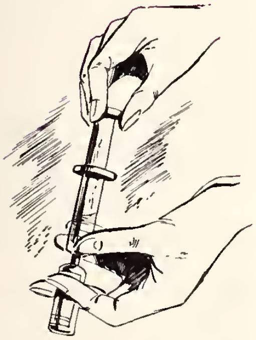

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The little RED FOX and th
fox

A 12x15 reproduction of this Amos Sewell color illustration, suitable for framing, is available upon request.

Needles and Knowledge

IF IMMUNIZATION against certain communicable diseases did not exist, it is unlikely that the modern school would be a reality. Discovery of the various immunizing agents has been achieved through the painstaking work of many keen minds. In many localities diphtheria is a rare disease. The incidence and severity of pertussis have been sharply reduced. Vaccination against smallpox will always remain an outstanding achievement in medical science. Co-operative research for the development of better medicinal agents is encouraged by the ethical pharmaceutical manufacturer. Scientists of the Lilly Research Laboratories combine their collective talents with those of the clinician to solve problems met in caring for the sick. Through the continuation of this work, reliable medicinal products for both prevention and treatment of disease are made available to the medical profession.

DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
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VOLUME 19
NUMBER 7

JULY, 1947

Per Copy, 20c
Per Year, $2.00

CHRONIC SHIGELLOSIS DUE TO SHIGELLA SONNEI

A Case Report

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Shigellosis is an infectious disease, usually acute, caused by members of the genus Shigella. It is characterized clinically by the frequent passage of stools containing mucus, pus and blood, and accompanied by abdominal pain and tenesmus. Pathologically, there is an acute inflammation of the large bowel which leads to necrosis of the mucous membrane. The diagnosis is made by bacteriological examination of the feces.

Acute shigellosis is a rather commonly observed form of enteric disease, but the case with duration of illness of more than one month is not as frequent. The following case is presented because of several unusual features: (1) duration of illness of one year, (2) Loss of 2/3 of body weight, (3) a demonstrated bacteremia with possible endocarditis and (4) development of abdominal abscesses and empyema.

Case Report

The patient, a 15-year-old Polish girl, while working as a maid in a seashore resort in the late Summer of 1944, became acutely ill with chills, fever and lower abdominal pain following a dietary indiscretion. She was removed to the local hospital with a diagnosis of acute appendicitis. On admission, physical examination revealed nothing remarkable, except abdominal tenderness in the lower left quadrant. Following consultation with members of the surgical and gynecological staff, surgical intervention was considered inadvisable, and a course of penicillin therapy instituted. During this treatment persistent fever and diarrhea occurred, and penicillin, along with a therapeutic trial of sulfonamides, resulted in little symptomatic improvement.

After a 12 weeks hospitalization, during

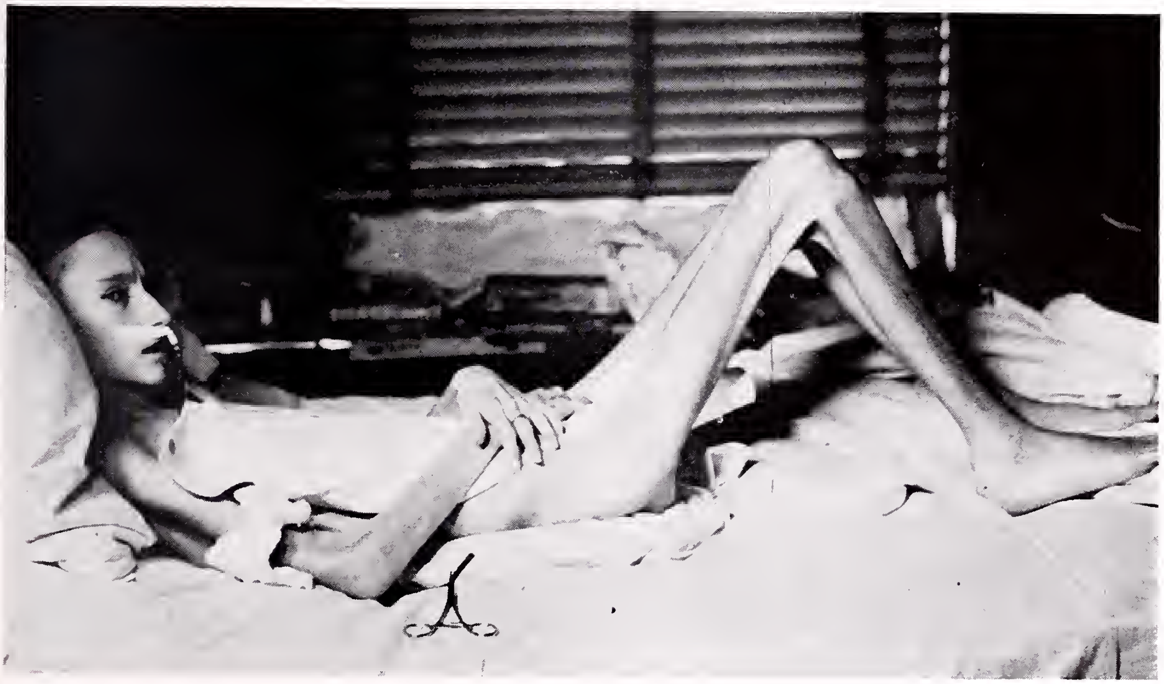

Fig. 1 Appearance of patient on admission January 1945 weighing 40 lbs. Normal weight 118 lbs.

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* From the Departments of Medicine and Pathology, Delaware Hospital.

which there was severe weight loss, continued unexplained fever and diarrhea, and after an additional 6 weeks under another physician's care, who prescribed rice diets, vitamins and tonics, with little symptomatic improvement, and continued weight loss, the patient was admitted to the Delaware Hospital on January 8, 1945. Physical examination revealed a critically ill, extremely emaciated child with a temperature of 100 F., a rapid pulse, a blood pressure of 100/40, enophthalmus, muddy sclerae, sunken cheeks, prominent facial bones, an eczematous area about the ears, prominent and easily counted ribs, hypoplastic breasts, and a scaphoid abdomen. The tongue and pharynx were red, teeth somewhat darkened, and gingivitis was apparent. No adenopathy observed. The scapulae were winglike, the spinal processes prominent posteriorly, and the extremities were markedly emaciated with absence of subcutaneous fat. The muscles of the extremities were ribbon-like and tendon outlines were distinguishable. Bony structures of the elbows and knees were prominent. Body weight approximately 40 pounds. The lungs were clear, except some impairment at the left base. Breath sounds were prominent, no rales were heard. Silhouette of the heart was decreased. There was a loud, grade III, systolic murmer at the apex, which transmitted well into the axilla. The abdomen was tense with an area of rigidity in the lower left quadrant, no ascites present. At this time no etiological diagnosis was made. A chest x-ray showed the lungs clear, with atelectasis at the left base. There was a shift of the heart toward the left, and a flat plate of the abdomen was negative.

Laboratory Studies. An admission blood count disclosed a red cell count of 3.1 million, with a hemoglobin of 10 gm., 63%, and a white cell count of 24,000 with a marked left shift. Urinalysis was negative except for a 1 plus albumin and 5-10 white cells/hpf. Febrile agglutination tests were negative with typhoid, paratyphoid A & B, Br. abortus and Prot. OX19 antigens. The serum protein was 5.2 gm.%, and the stool showed a 4 plus benzidine test. Urine culture reveals the presence of coliform bacilli and stained urinary sediments showed no acid-fast organisms. After 24 hours incubation, a non-motile, aerobic gram-negative rod was isolated from an admission blood culture, and subsequently from a rectal culture. Typical non-lactose-fermenting colonies were observed on Difco SS agar, and triple sugar iron agar showed an acid butt with no gas, an acid slant, and no hydrogen sulfide production. This organism promptly fermented dextrose, maltose, mannitol, arabinose and rhamnose, with the production of acid; and no reaction on lactose, sucrose, xylose, dulcitol, sorbitol, inositol or salicin. Indol and acetyl-methyl carbinol were not produced, methyl red was positive and gelatin was not liquified. Slide agglutinations were negative with typhoid, polyvalent Flexner dysentery, Sh. ambigua and Sh. alkalescens anti-sera, and positive with Sh. sonnei antiserum. Tube agglutination with this antiserum agglutinated the organism through a titer of 1:320. After 8 days incubation it was noted that lactose and sucrose were fermented with the production of acid, and a tentative bacteriological diagnosis of *Shigella sonnei* was thereby submitted. This was later confirmed by Dr. Cora B. Gunther of the Enteric Disease Laboratory of the Penna. Dept. of Health, who reported similar biochemical and serological reactions. Thereafter an etiological diagnosis of shigellosis due to *Sh. sonnei* was made.

Hospital Course. The patient's subsequent course was quite eventful. She was stuporous, uncooperative, spoke in a weak voice and complained of pain. She would moan, refuse food and on one occasion the house resident reported he felt she was dying. Therapy consisted of tube feedings, glucose and saline by vein and three 500 cc. whole blood transfusions. Solu B was given intravenously, and multiple vitamin therapy, particularly B complex and C, was given by mouth. Sulfasuxidine sulfanilamide, neoprontosil and sulfadiazine were given therapeutic trials of 24 grams each, over a period of four weeks. No remarkable response was made to any of these medications. The blood and rectal cultures, however, taken on February 5th, were reported negative for *Sh. sonnei,* and remained negative on seven subsequent occasions. Under the above regimen, the patient began to show some symptomatic improvement, weighed 43 pounds, but continued to complain of pain in the lower left quadrant. On February 26th, a sigmoidoscopic examination revealed no definite pathology, although the scope was passed only 15 cm. because of the acute angulation of the sigmoid and bowel wall. The entire wall was injected and bled when touched with cotton applicators and scope. Because of the continued persistence of pain and tenderness, a diagnosis of abdominal abscess was considered, and the patient was referred for surgery on May 1st. A lower left rectus incision was made, the abdomen opened, and immediately thereafter a large cavity filled with pus was broken into. This had apparently originated from the rectosigmoid junction. Two drains were inserted and the abdomen was closed. Culture of the pus showed coliform bacilli and alpha and beta hemolytic streptococci. Penicillin therapy, 500,000 units, was then administered. On May 11th, a definite dullness in the lower left chest was noted, and a diagnostic thoracentesis revealed about 50 cc. of muddy-colored, foul-smelling pus, which showed coliform bacilli and *Monilia krusei* on culture. No acid-fast bacilli were seen in direct smears. On May 14th, a left thoracotomy was performed and a double catheter inserted. Some improvement followed, but on May 16th, an x-ray showed a left pleural effusion, and an indirect communication to the thoracotomy pocket was demonstrated. On June 4th, a thoracostomy with rib resection was performed, and about a half ounce of thick pus was aspirated. By June 11th, this wound was clean and the packing was removed. However, a fistula subsequently developed from the fundus of the stomach to the draining empyematous space. By July 16th, there was little drainage through the thoracostomy tube, and the sinus to the stomach had apparently closed.

During this period the patient was maintained on a high caloric-high vitamin diet using forced feeding, and blood transfusions were given as indicated. In February she weighed 43 pounds, in March 52, and in April 60 pounds. During this latter period of complications she lost weight slightly, but continued to show slow improvement. She was finally discharged from the hospital on July 21, 1945, weighing 60 pounds, and referred to the out-patient department for follow-up. Weight gain was rapid thereafter, and when last seen on April 10, 1947, the patient was in good health and weighed 130 pounds.

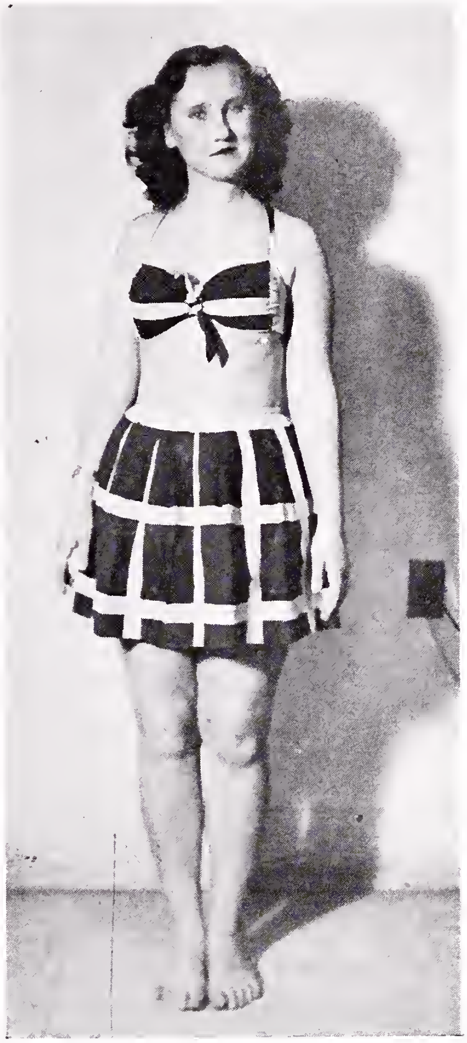

Fig. 2 Appearance of patient in Out-Patient Dept. April 1947. Weight 130 lbs.

Conclusion

A case of shigellosis of long duration has been presented. A bacteremia and possible endocarditis due to *Shigella sonnei* was demonstrated. Numerous complications including a pelvic abscess and empyema were reported. Although the patient lost and gained approximately two-thirds of her body weight over a twenty months illness, final recovery occurred.

CARDIAC DYSFUNCTION WITH SEVERE ANEMIA

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It is doubtful that anemia alone can cause structural heart disease (other than enlargement due to dilatation), yet in severe forms of chronic blood loss a picture superficially resembling valvular or coronary disease is often simulated. In 1918, Herrick stated that "blood of poor quality in arteries somewhat narrowed, can favor the development of anginal attacks." Later, both Pardee and Levine subscribed to this thesis: that severe anemia results in coronary insufficiency probaboly only in the presence of pre-existing coronary sclerosis. Accepting ischemia of the myocardium as the cause of anginal pain one would expect to encounter innumerable examples in everyday practice of patients with coronary disease exhibiting symptoms proportional to the presence of a varying secondary anemia. Such is not the case; indeed, an extensive review of cases of anemia made by Carter in 1943 revealed the coexistence of anemia and angina to be rare, actually less than one percent.

A review of the physiological factors tending to compensate for the decreased oxygen carrying capacity of the blood in any anemia is necessary for understanding the apparent lack of correlation. In dogs, Blalock and Harrison[1] showed that cardiac output and percent utilization of available oxygen in the blood are increased following hemorrhage.

Using the direct Fick method for cardiac output and determination of right auricular pressure by cardiac catheterization, Sharpey-Schafer[2] confirmed, in man, the work of Starling and Wiggers—that minute output is increased by raising the venous filling pressure in the right heart, by accelerating the heart, and by the action of adrenalin or related substances acting directly on the heart. Oxygen supply is then maintained by (a) increased cardiac output, (b) increased removal of oxygen in the periphery more or less proportional to the hemoglobin loss, and (e) reduced blood volume resulting in greater concentration of total hemoglobin. The latter effect is probably achieved through reduction in the vascular capacity of the capillary and venous systems, since clinical observation of the pulse, skin circulation, and calculation of total peripheral resistance indicate arterial dilatation. This is reflected in the increased pulse pressure, capillary pulsation in fingertips, and even "pistol shot" sounds over the larger arteries, a complex which has been termed the "hyperkinetic syndrome" by Harrison and has sometimes resulted in the erroneous diagnosis of valvular disease. A further compensatory factor is the high normal venous pressure, becoming definitely increased in the more severe cases. This rise in venous pressure does not seem to be simply the result of damming back of blood behind a failing heart but an integral part of the compensatory adjustment, mediated at least in part by reduction in peripheral vascular capacity.

Sickle cell anemia simulating coronary occlusion [3, 4] and heart studies in pernicious anemia[5] have been reported many times. Through autopsy study, the conclusion was reached that cardiac hypertrophy without valvular or endocardial abnormalities was secondary to the anemia, but that the exact cause was uncertain.

Case Rport

W. M., aged 50, entered the Delaware Hospital July 30, 1946, because of increasing shortness of breath, swelling of ankles, and weakness. The dyspnea occurred on slight exertion and required him to rest after walking as little as one block; substernal distress was never complained of. The past history was negative except for bleeding hemorrhoids of four years duration. Prior to admission he had been treated by a local physician for almost two years for heart disease, without a blood count having been taken.

Physical examination revealed an extremely pale but well nourished white male with no jaundice. The blood pressure was 106/50, with a pulse rate of 78/min. There were moist rales in the left lung base, with a blowing systolic murmur in the apical region. The liver and spleen were not palpable. One plus pit-

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** Appreciation is expressed to Dr. Lemuel C. McGee for translations of the foreign literature and for helpful suggestions.

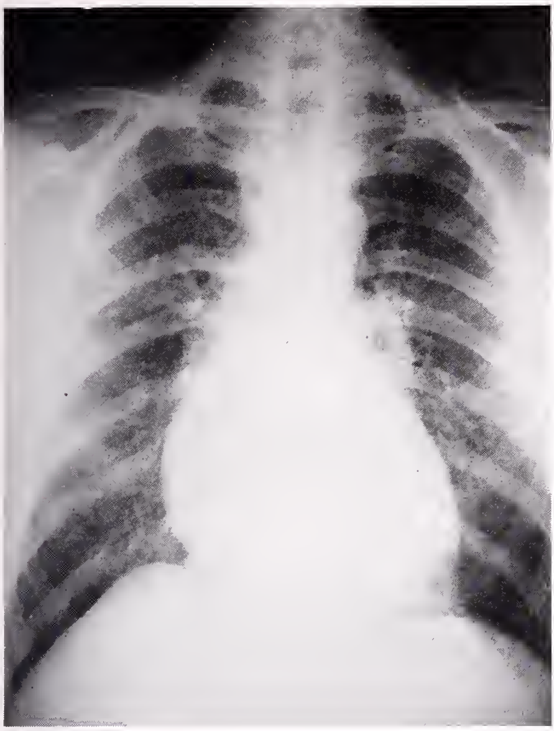

Fig. 1—Generalized enlargement of the heart. Cardiothoracic ratio 15.3 to 30. Pulmonary congestion.

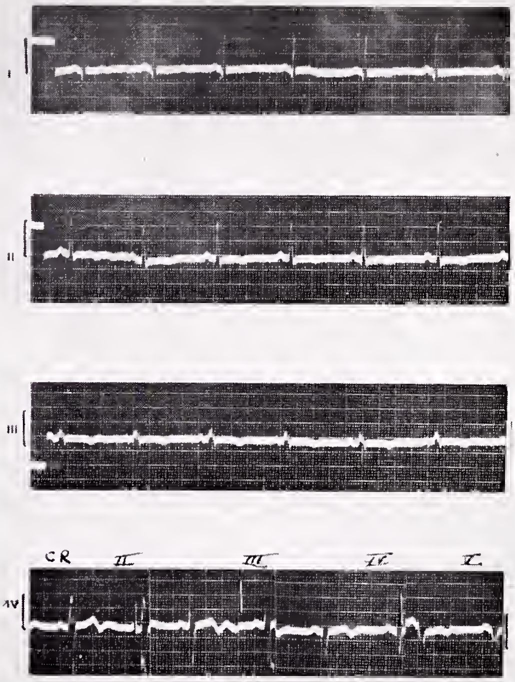

Fig. 2 St and T wave changes in limb and precordial leads of non-specific nature.

ting edema of the ankles was observed, and rectal inspection revealed large external hemorrhoids.

Laboratory findings were as follows: Hb 3.0 gms. (19%), RBC 2.4, color index, .4, severe hypochromia, WBC 5300 with a normal differential smear, reticulocytes 1.4%, and icterus index 2. Gastric analysis showed free hydrochloric acid, and the Wassermann Kahn tests were negative. Six foot chest plate (Fig. 1) showed generalized enlargement of the heart with a cardiothoracic ratio of 15.3 to 30. An electrocardiogram (Fig. 2) revealed T wave changes in all leads consisting of low amplitude in the limb leads, and inversion in the precordial leads over the left heart.

Following several large transfusions, a hemorrhoidectomy was performed by Dr. Daniel J. Preston, with uneventful recovery.

Just prior to surgery, at which time the Hb was 82%, and the RBC 4.3, a repeat chest plate (Fig. 3) revealed a normal heart size and a second ECG (Fig. 4) showed reversal to a normal pattern. Following operation, the systolic murmur, ankle edema, and basal rales disappeared. The patient has remained in good health and gave no evidence of anemia or cardiac abnormality eight months after discharge; he is now gainfully employed.

Discussion

Despite the marked reduction in oxygen carrying capacity of the blood, no evidence of angina was ever present, and one would be inclined to conclude that no coronary disease existed. Certainly, it is difficult to base electrocardiographic changes on myocardial anoxia if one accepts the latter as the cause of anginal pain. Yet the T wave changes shown in Fig. 3 closely resemble the tracings taken on human subjects at simulated altitudes of 25,000 and 35,000 feet.[6]

In low pressure chamber experiments on young individuals EKG changes occur without any clinical evidence of the anginal syndrome. It would seem that the affects of cerebral anoxia will appear long before the syndrome of coronary insufficiency, except in those individuals who already have definite coronary disease of fairly marked degree. In the above case report vertigo and syncope based on cerebral anoxia were con-

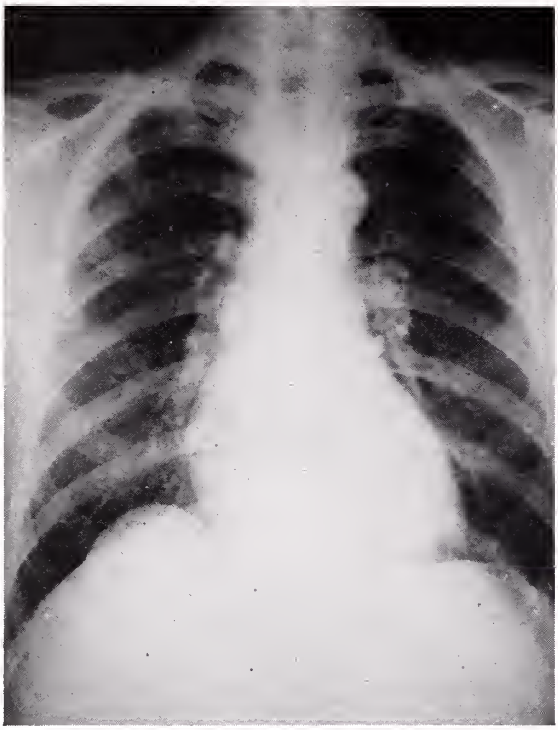

Fig. 3 Normal heart size following therapy.

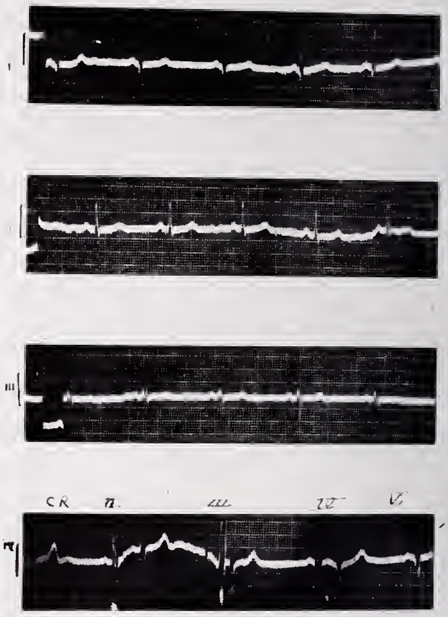

Fig. 4 Reversal of ECG to normal configuration.

spicuous, and the ECG changes are almost certainly attributable to reversible functional changes and/or to shifts in the electrical axis of the heart rather than to permanent myocardial damage. This alteration in sign, configuration, and potential are probably due to changes in chemical metabolism of the musculature. Even in known coronary disease the exercise test or the anoxemia test (which is approximately equivalent to breathing at an altitude of 18,000 feet) may give false negatives. It is interesting to note Amadeo's observation[7] that temporary anemia seems to benefit certain individuals with known coronary disease. He postulated that the anemia might stimulate the development of collateral circulation in the myocardium.

Summary and Conclusion

It appears that no definite correlation can exist between angina and anemia whether coronary disease is present or not. The compensatory factors operating in anemia: (1) increased cardiac output, (2) increased removal of oxygen in the periphery, (3) reduced blood volume, (4) the inability to ascertain any quantitative value for the degree of coronary sclerosis present (short of autopsy), (5) the necessary curtailment of physical activity in the presence of moderately severe anemia and (6) perhaps the greater vulnerability of the cerebrum to the affects of anoxia, militate against any such correlation.

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CLINICAL PATHOLOGICAL CONFERENCE

Delaware Hospital Case #29

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Four months prior to admission the patient, a 17-year-old male, who had been in good health all his life went to a C. C. C. camp. One of his barracks mates had a bad cough and one month later the patient developed a chronic cough, productive of whitish sputum with occasional flecks of blood in it. He began to lose weight, and become short of breath. Towards evening he would get chilly and sweat profusely, he also noticed that he was getting hoarse. He entered the Delaware Hospital on November 9, 1937, four months after onset of illness, his weight having dropped from 148 to 117 pounds. Physical examination revealed a thin, pale, anemic and weak looking white male about 17 years old. There was moderate enlargement of the posterior cervical glands. The thyroid was not palpable. Heart and lungs were negative. The axillary, epitrochlear, inguinal and posterior cervical glands were enlarged, especially the cervical. There was a light red maccular rash over back. On admission the urinalysis showed a neutral reaction. Specific Gravity 1:029; a faint trace of albumin, loaded with amorphous phosphates and bacteria. The blood count demonstrated a hemoglobin of 63%, RBC 3,900,000; WBC 40,500; Polys 2%; lymphocytes 97%; myelocytes 1%. Heterophile antibody reaction was negative except for slight agglutination of paratyphoid and typhoid antigens to dilutions of 1:20 and 1:80 respectively. Wassermann and Kahn tests were negative. The Sedimentation Rate was 33 mm. per hour and the blood culture was negative. An x-ray of the chest showed a large amount of mottling in the region of the hilus on the right side extending towards the apex and base, also enlargement of the mediastinal glands which gives indication of an early pulmonary tuberculosis. A flat plate of the abdomen showed the liver shadow extending to the iliac crest. A gastro-intestinal series was negative.

During the hospital course of 56 days, terminated by death, the patient ran a daily spiking intermittent fever from a normal A. M. temperature to 103 and 104 degrees in the evening. A lymph node biopsy was performed, on November 12, 1937, which showed microscopically hyperplastic proliferating lymph follicles without any destruction of normal architecture, diagnosed as non-specific lymphadenopathy. He became progressively weaker and continually complained of pain in L. U. Q., sore gums, and difficulty in getting his breath. The red count and hemoglobin slowly dwindled despite one transfusion. One month after admission his RBC was 2,800,000, Hemoglobin 46% and at time of death his RBC 1,700,000, Hemoglobin 40%. The white count varied from 9,800 to a terminal flare up to 91,000. The differential remained essentially the same with the lymphocytes always above 90% and with 1-2 metamyelocytes. Two platelet counts were 50,000 and 60,000 done one month apart. His Sedimentation rate remained above 30. Tuberculin tests were negative. A repeat Widal one month after admission was positive at 1:40 dilution. Blood culture 3 days prior to death was positive for hemolytic staphylococcus. Four days prior to death he became quite dyspneic, this increased markedly during the next two days, his neck glands were enlarged. A pseudomembrane formed in his throat, and there was a great deal of mucoid exudate, he was barely able to get air through the obstructed respiratory passage. A tracheotomy was done. The patient died during the operation. During his hospital course he was given 2 cc. of liver extract daily along with other drugs for comfort of the patient. An autopsy was performed.

Differential Diagnosis: E. A. Mekanik, M. D.,*

We have here the case of a 17-year-old male, who, according to the history had been perfectly well up to three months prior to admission. At that time he entered a camp where he was exposed to a barracks mate with a "bad cough." If we were to read only the history of the present illness, either tuberculosis or typhoid is a possibility. The patient developed a cough, blood tinged sputum, loss of weight, some dyspnea, and apparently elevation of his afternoon temperature, which suggested tuberculous infection. Since until about three months prior to admission, this boy was apparently well, this disease is one with a fairly rapid course. The physical examination is significant in that it presents a picture of a rather acutely ill patient. Notable, is the presence of the enlarged cervical glands with a co-existing generalized lymphadenopathy and an enlarged liver. This appears to be one of the most prominent features of the case. Lymphadenopathy is usually divided into four groups, (1) Inflammatory; (2) chronic granulomas (tuberculosis, lues); (3) malignant lymphomas and lymphoblastomas; and (4) secondary tumors. Inflammatory lesions of lymph nodes are usually due to virulent bacteria being arrested in the lymph nodes. The glands are usually enlarged, painful and tender. Suppuration occurs but rarely. Tuberculosis and syphilis are the two greatest offenders in the chronic granuloma group. Syphilis may cause node enlargement in any stage, but generalized adenopathy is only characteristic of secondary lues. With the negative Wassermann, it seems reasonable to rule out syphilis. Tuberculosis one of the commonest causes of lymph node enlargement. Usually these are local, but generalized adenitis is not unknown, especially with a virulent, diffuse infection. Considering lymphoblastomas, there is Hodgkins disease, which also presents a similar picture. Though a generalized adenitis is a common manifestation, cervical gland enlargement is usually detected first. Certain features of this case can be easily covered by Hodgkin's disease. Lymphosarcoma, leukemia and possibly thymomas are others grouped as malignant lymphomas, and likewise are capable of presenting a similar picture. Secondary tumors complete the classification: the patient's age, the comparatively short course, and the non-committal pathological report, I believe, rule it out. We see by our laboratory studies that, first, there is apparenlty no primary kidney disease. However, the fact that bacteria are present in the urine is significant in view of the fact that typhoid is one of our possibilities. Urine cultures certainly were indicated, and were probably done since the patient was hospitalized for fifty-six days. The white count of 40,000 with 97% lymphocytes certainly is an outstanding feature. Here, with a count of 40,000, of which 97% are lymphocytes, one immediately thinks of a primary disease of the lymphatic system and lymphatic leukemia fits the picture best. The anemia could be explained on the basis of either involvement of the hematopietic system or as due to a chronic illness with deficient nutrition. The heterophile reaction may be significant. A titre of 1:80 for typhoid antigens is considered by some as diagnostic of typhoid infection, but others say that more than 1:80 is required to be significant. At any rate, it only seems to cloud the issue; with more information, its significance would either increase or decrease. We have therefore the following possibilities: Tuberculosis, typhoid, inflammation unspecified of lymphatic system, chronic granuloma (tuberculous), Hodgkin's disease, lymphosarcoma, leukemia, etc., or secondary tumors.

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Tuberculosis, especially the miliary variety, is certainly a possibility. For it we have a history of suspicious contact, loss of weight, cough, blood tinged sputum, sweating and chills, and an afternoon temperature elevation. In addition, there is x-ray evidence of an early pulmonary lesion. To offset all this evidence we have a *negative* tuberculin test, which, to my mind, means there has been no previous tuberculous infection. If I am wrong, then possibly the picture is clear, and the response is a terrific outpouring of the lymphatic system, but certainly the biopsy report would have mentioned findings typical of tuberculosis.

Typhoid. Because of the possible exposure at the camp, and the Widal titre of 1:80, typhoid should be mentioned. However, against this diagnosis is the repeat titre of 1:40 one month later, which certainly should have been higher. The tender abdomen may have been due to diffuse involvement of the lymphatics of the intestine, but generalized clinical adenopathy is uncommon in typhoid. We would also expect splenomegaly instead of the gross hepatomegaly mentioned. No mention was made of the pulse, which is slow and full in typhoid. The remittant fever is also against this diagnosis. Bacteria were mentioned as being in the urine, and culture would have helped in many ways. A rash is mentioned in our history, but the typhoid rash is unusual after six weeks. Finally, we have a high leucocytosis and absolute lymphocytosis, which is definitely uncommon in typhoid, and the mode of death is not in keeping with typhoid patients. Of more significance to me is the possibility of a primary disease of the lymphatic system. The inflammations do not seem a logical choice; first, we would necessarily have to have a primary focus for a diffusion point, and none is apparent. Then, too, there is invariably a polymorphonuclear reaction to such invasion, and here our reaction is an absolute lymphocytosis. Finally, the entire lymphatic and reticulo-endothelial system is not involved, as we have here.

The most likely choice is lymphoblastoma, malignant lymphoma, i. e., Hodgkin's disease, lymphosarcoma, and leukemia. Of these, lymphosarcoma seemed to be the most likely, principally because of the biopsy report. In the late stages tumor invades the surrounding tissues, but early the gland is intact, with replacement of normal lymphoid structure. Anemia, which is present in our case, may be a prominent feature of lymphosarcoma. Fever, progressive diffuse lymphadenopathy, and a relative and absolute lymphocytosis are common. Terminally these cases go out with a picture of lymphatic leukemia; they often bleed rectally, due to involvement of the intestinal mucosa. Sore gums are common as are rashes similar to that of the patient under consideration. The only disconcerting feature is the lack of mention in the report of the spleen. An x-ray of the abdomen mentions only hepatic enlargement, but it does say the patient complains of left upper quadrant pain which may have been due to a progressive splenomegaly. These patients fail progressively, as our patient did, and it is not uncommon for them to develop obstruction of the trachea, when the lymphadenopathy centers in the mediastinal and cervical glands. Our report emphasized that the cerival chain was very markedly enlarged. This is also characteristic of Hodgkin's disease, which, also tends to involve the mediastinal glands through this is also shared by lymphosarcomas. The principal features against Hodgkin's disease are the blood count and the biopsy findings. The possibility of a leukemia is obvious, and its symptoms, signs and laboratory data are fairly well known by all of us.

DR. MEKANIK'S DIAGNOSIS

Lymphosarcoma or one of the lymphomas.

AUTOPSY DIAGNOSIS

Malignant thymoma with leukemia (leukosarcoma) with extension to pericardium, pleura, lymph nodes, spleen, liver, and bone marrow.

PATHOLOGICAL DISCUSSION

Dr. John W. Howard[*]: The autopsy reports the upper mediastinum firmly adherent to the sternum and made up of a densely fibrous structure which encircled the superior vena cava and branches of the aortic arch and caused compression of the trachea. Gross section of this mass revealed soft tumorous glands and thymus. The involved pleura measured up to 5 mm. in thickness. The pericardial sac was obliterated. The liver weighed 2100 gms. and was firm throughout. Microscopic section of the mass revealed a tumor not unlike lymphosarcoma consisting of uniform infiltrating cells either lymphoblasts or altered thymic cells. Figure 1 is from this area and shows a persistent Hassall corpuscle. Other organs including the liver showed infiltration with similar tumor cells. The bone marrow (Fig. 2) showed complete replacement with identical cells. The tumor is a lymphosarcoma involving the thymus together with a frank lymphogenous leukemia. The process may well have started in the thymus. It is also quite likely that the leukemia and sarcoma are all part of one disease. The inter-relation of the various lymphomas and leukemia has gradually appeared in the literature and Mallory[1] suggested in 1914 that Hodgkin's disease, lymphatic leukemia, lymphosarcoma, and various sub-varieties were inter-related. Other writers have been gradually inclining toward this opinion. Recently Herbert[2] reported on the relation of Hodgkin's disease, lymphosarcoma and reticulum sarcoma. R. P. Custer[3] recently reported the frequent association of leukemia with a number of lymphomas which appeared

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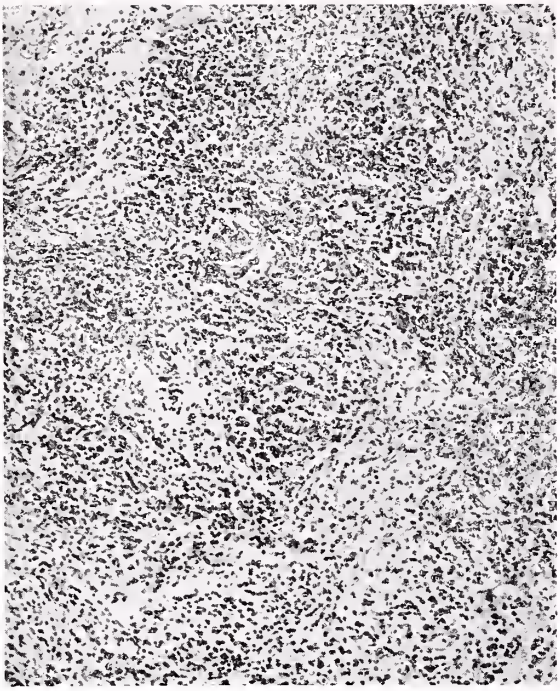

Fig. 1 Tumor of thymus with Hassall's Corpuscle. x137.

histologically different in separate areas or periods of biopsy. Forkner[4] presents an excellent review on the subject of leukosarcoma and indicates this disease is more common in the younger age and frequently involves the mediastinum. Cook[5] found that lymphosarcoma often associated with a leukemia blood picture, is the common form of massive mediastinal enlargement in children. The nine cases she added to a collected series of 74 represented 24% of 38 cases of acute leukemia seen during a period of six years. Several reported cases have done well on x-ray but one must always remember that large doses may produce added enlargement of the mediastinum and further respiratory obstruction. Pathologically any large tumor of the anterior mediastinum that surrounds great vessels should be suspected of having arisen in the thymus. Definite histological proof of involved thymus is not easy and rests entirely on the identification of Hassall's corpuscle.

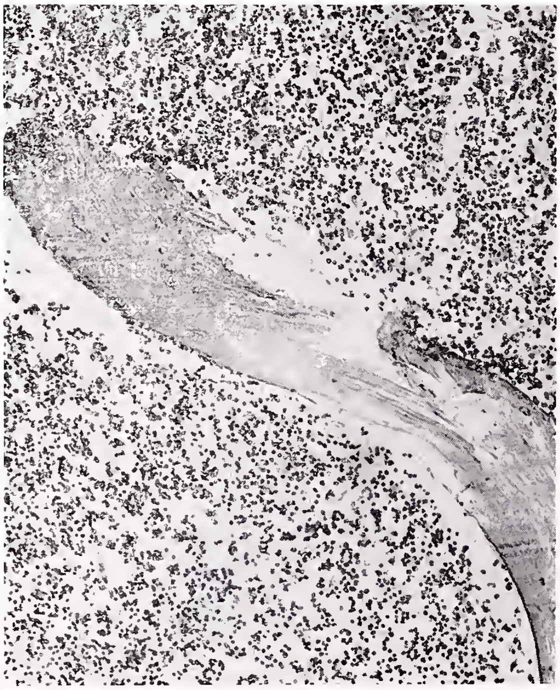

Fig. 2 Bone Morrow. x137.

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EXPERIMENTAL TRANSPLANTATION OF OVARIAN TISSUE INTO THE TESTIS CAPSULE FOLLOWING ORCHIC PARENCHYMECTOMY

Brice S. Vallett, M. D.,*
Wilmington, Del.

While there is practically no experimental evidence to justify the following procedure, the exigency of the following cases would seem to entertain almost any gesture of reparation.

Case I

A white man, 71 years of age, had a radical prostatectomy for carcinoma September, 1945. As his general condition was satisfactory and there was no clinical or laboratory evidence of metastases, orchectomy was held in reserve until such time as it would be indicated. He returned to work and was comfortable until April, 1947, when he complained of weakness, which he attributed to his caring for a sick wife and son at home when his day's work was done. He had been taking hexestrol 3 mgm. daily for the intervening time since his operation. The blood picture at this time was as follows: Hb, 78%; red cells, 3,700,000. It was felt that he was probably developing a metastasis and x-ray verified this suspicion, showing lesions in the ilii and femora.

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He was admitted to the hospital and bilateral orchic parenchymectomy carried out in the following manner. When testis capsule was incised in the long axis of its convex border the seminiferous tubules were removed by tissue forceps (gauze being avoided). No bleeding vessels in the capsules were ligated. An ovary that had been removed an hour previously and kept in plasma was now bisected and one-half dropped first into one testis capsule and then the other half into the other testis capsule. Each capsule was closed with a running suture of 0000 chromic catgut. The scrotal skin was closed without drainage with black silk. Primary healing took place in 6 days and, aside from transient local tenderness for several days, at the end of one month the scrotal contents were firm and not tender, and the scrotum presented a normal appearance.

25 days following operation the patient returned to work.

40 days following operation the blood picaure was as follows: 93% Hb., red cells, 4,900,000. Acid phosphatase, 0.5 Bodansky (modified).

X-ray of the lungs—negative.

Case II

A Negro, aged 63, was referred for the alleviation of obstructive symptoms referrable to the neck of the urinary bladder. On rectal examination the family doctor found a stony, hard prostate. Our examination agreed with this, the impression being that of a "frozen pelvis." As acute retention of urine had not occurred we decided to do orchic parenchymectomy which might oviate subsequent electric reversion of the vesical neck, through local regression of the malignant prostate.

Prior to operation the blood count was as follows: Hb., 80%. Normal differential count. Patient in fair stage of nutrition. No metastases demonstrable in chest or bones.

On May 15, 1947, bilateral orchic parenchymectomy with ovarian transplantation was carried out according to the technique described in Case I. Healing of the scrotal wounds was rapid and complete in eight days. As in the first case there was local tenderness for the first week. Both cases received 100,000 units penicillin q. 4 h. (i. m.) for one week following operation, which probably contributed to the primary healing of the scrotal wounds. There was noticeable improvement in the local vesical neck sypmtoms and the patient was discharged from the hospital 12 days following operation, the scrotal wounds completely healed.

Comment

Autotransplantation has been successful in mammals from one individual to a second site in the same individual or from one individual to a closely related individual. Grafts of ovaries of one species into another (heterotransplantation) or even of unrelated animals of the same species are but questionably or never successful.

Ovaries transplanted into adult intact or castrated male rats fail to show cyclic changes of the usual type. The ovarian follicles grow but fail to ovulate and corpora lutea do not form. It is known that male rats hypophyses contain more gonadotropin than those of the females but that they will not establish rhythmic relationship with the transplanted ovaries, while ovaries transplanted into ovariectomized adult female rats show the usual cyclic changes.

We were led to try this experiment after reading of Whitney's experimental work in female dogs of different breed. (Science, 103: 654, May 24, 1946). He reports successful transplantation of ovaries when the transfer was made while both animals (donor and recipient) were in estrus. In the successful transfers the donors were blood hounds and the recipients foxhounds. (After incisions of the capsule the ovary was removed at the hilus and transferred to the capsule of the recipient which was then closed with fine catgut sutures). It may well be that here is a biological factor that may have great significance: the site of implantation. After transfer, signs of estrus in the recipient decreased gradually over a period of four or five days. Estrus then recurred in full intensity and continued for a normal period of twenty days. Signs of a second estrus were observed forty-nine days after the start of the previous period in one foxhound and on the ninety-eighth day in another. These periods did not correspond with the recipients' previous history but represent a continuation of the donors' cycle. One of the dogs was sacrificed seventy days after termination of the second estrus. On microscopic study the ovaries appeared normal except for a few necrotic vessels at the hilus; otherwise vascularization was well advanced. Although the granulosal cells were first thought to secrete the primary ovarian hormone, recent histological and histochemical studies indicate that the theca interna is its source.

Whether or not the transplanted ovarian tissue will continue to function in its new environment in the above two cases remains to be seen.

CLINICAL USE OF STREPTOMYCIN*

HARRISON F. FLIPPIN, M. D.,**
Philadelphia, Pa.

Although streptomycin is an effective drug in the treatment of certain bacterial infections, its use necessitates careful supervision if optimal results are to be obtained. In the time allotted for this discussion we will consider the more important factors regarding the successful use of this new antibiotic agent.

IDENTIFICATION AND SENSITIVITY OF INVADING ORGANISM

Streptomycin should be used only where there is an infection due to a streptomycin-sensitive organism. Although clinical results with streptomycin do not invariably parallel antibacterial potency, as determined in vitro, it is important to identify the causative organism and measure its sensitivity to the drug in order to determine its potential effectiveness in a given infection. Not infrequently, ordinarily susceptible organisms develop a resistance to streptomycin, especially when inadequate dosages of the drug are employed, or in those cases where it is necessary to readminister streptomycin. Hence, it is very important, not only to determine the nature of the infection for the prognosis, but also for the adjustment of the dose of streptomycin.

As yet the complete range of antibacterial activity of streptomycin has not been determined. In vitro studies have indicated that streptomycin possesses high activity against a number of organisms, notably Escherichia Coli, Mycobacterium Tuberculosis, Bacillus Mycoides, Eberthella Typhosa, Pseudomonas Aeroginosa, Proteus Vulgaris, Salmonella Schottmullerii, Hemophilus Influenzae, Bacillus Mucosa Capsulatum, Bacterium Tularense, Hemophilus Pertussis, and the Brucella Abortus organisms. Furthermore, many ordinarily penicillin-susceptible organisms which have become penicillin-fast are controlled by streptomycin.

Thus far, the clinical use of streptomycin has been modified by supply and cost. Because of this it has been employed largely in those infections, the course of which penicillin and the sulfonamides have been unable to effect. Most prominent of these are gram-negative infections of the urinary tract, pulmonary and meningeal infections due to Friedlander's bacillus and Hemophilus Influenzae, bacteremias due to gram-negative bacilli, such as E. Coli, H. Aerogenes, B. Proteus, and Salmonella and wound infections. Excellent results have been obtained in Tularemia, particularly the ulceroglandular type. Clinical observations dealing with the treatment of Brucellosis are promising, especially in acute cases, but not conclusive. Furthermore, there is suggestive evidence that streptomycin may prove beneficial in the control of pertussis.

According to preliminary reports from the Mayo Clinic, streptomycin probably exerts a limited suppressive effect on some of the more universal types of pulmonary and extra-pulmonary tuberculosis. Already streptomycin has been used successfully as a prophylactic agent in preparing cases for large bowel surgery. In addition to the above, there have been many miscellaneous infections treated with streptomycin with varying success. However, further clinical studies must be completed before an evaluation can be made regarding this new substance.

ADEQUATE CONCENTRATION OF STREPTOMYCIN AT SITE OF INFECTION

Streptomycin must be administered in such a way that it comes in contact with the infecting organism in effective concentrations. Studies on the absorption and excretion of streptomycin in man have shown that this antibiotic, administered parenterally, behaves like penicillin, in that both agents are rapidly absorbed and rapidly excreted in the urine. Therapeutic blood levels are easily obtained by intermittent intramuscular injection or continuous intramuscular drip. It has also been given orally, intrathecally, and by nebulization into the tracheobronchial tree. When administered parenterally, streptomycin has been detected in pleural, amniotic, intraocular, and ascitic fluids in concentrations approximating that level in the circulating blood. In humans without disease of the cerebrospinal apparatus, streptomycin does not readily diffuse into the cerebrospinal fluid; however, in the presence of bacterial meningitis, appreciable amounts reach the cerebrospinal fluid. Furthermore, after systemic administration, little if any of the drug is found in the feces. Also, when streptomycin is ingested, little of it diffuses into the blood stream, and, therefore, none appears in the urine. However, streptomycin is not destroyed in the gut and is, therefore, a suitable agent for the control of certain infections involving the intestinal tract.

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* Read before the Delaware State Medical Society, Dover, October 8, 1946.

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Thus far, the dosage of streptomycin has been influenced somewhat by the limited supply. As supplies increase, larger doses of the drug will probably be used. Obviously such factors as susceptibility of causative organisms and the type, severity, and location of the infection tend to influence the dosage requirements in each case. In general, the daily dosage usually employed has been 3 to 4 gm. equally divided in 6 to 8 doses for 5 to 10 days. The best results being obtained when large doses are given over a relatively short period of time. In other words, it is advisable to attempt a "knock-out" of the infection,. rather than run the risk of the infecting agent's becoming streptomycin-resistant as a result of prolonged therapy with small amounts of drug. For most infections requiring streptomycin, it seems that intermittent intramuscular injections of the drug give the most satisfactory results. For intramuscular use, streptomycin (1 gm.) is dissolved in 10 cc. of sterile distilled water or sterile physiologic saline. In order to avoid pain, it is advisable that the injection be made slowly, and if desirable procaine hydrochloride (1.0% solution) may be used. For infants the daily dose is approximately 5 mg. per pound of body weight.

As indicated, streptomycin may be administered orally. This method is reserved for those conditions limited to the gut, such as certain salmonella infections or in preparation of patients for bowel surgery. Oral administration is also indicated in infections, such as typhoid fever, when parenteral administration is also employed. As a rule, smaller daily dosage, 0.5 gm. to 2 gm., in 4 divided doses will suffice when the drug is used orally. Fruit juice and milk are suitable vehicles for the streptomycin. In the treatment of certain types of meningitis, it seems advisable to supplement systemic therapy with the intrathecal administration of streptomycin. For this purpose, 25 to 30 mgm. in 5 cc. of physiologic saline solution is given by the subarachnoid route. For the control of infections involving the larynx and tracheobronchial tree, streptomycin is used satisfactorily by means of nebulization. For nebulization between 0.5 and 1 gm. are used daily. The drug being dissolved in approximately 6 to 10 cc. of physiologic saline solution and inhaled from the nebulizer six times a day.

Suppression of Infecting Organism

In every instance it is important that streptomycin be continued in adequate amounts until the infection is suppressed. Obviously, it is difficult to state the point at which streptomycin should be stopped in a given infection. In many instances it is not easy to determine when the infection has disappeared. Furthermore, one cannot measure the immunity response of the patient and, if sufficient immunity has not developed, the possibility of a relapse exists· Thus, one cannot outline a course of therapy with streptomycin which will theoretically be effective in all cases. However, it seems practical to overdose the patient for a short period of time, 5 to 10 days, than to overdose him and run a greater risk of inducing a drug-resistant organism as well as the danger of developing a neurotoxic reaction to the drug. Of course, in the treatment of a disease, such as subacute bacterial endocarditis, past experience has indicated that it is important to prolong the treatment for at least 50 days, in order to prevent relapses.

ERADICATION OF FOCI OF INFECTION

At some point in all infections there is a portal of entry. In many instances the portal is obvious but in others it is obscured. For the treatment of septicemia with streptomycin, the most important single factor is the location and removal, or drainage, of the focus of infection by proper surgical procedures to prevent reinfection of the blood stream. Also, many urinary tract infections are produced as a result of infection in other structures, such as the skin, bones, intestines, and the genital tract. Although necrotic tissue or pus in a lesion does not greatly influence the action of streptomycin, the presence of a collection of pus demands prompt surgical drainage. The evacuation of pus thus permits streptomycin to deal more effectively with the infected tissue.

Not infrequently, an underlying causative organic lesion, such as an obstructive uropathy in urinary tract infections, will give rise to disappointing end results with streptomycin. The presence of such lesions per se is not a contraindication for streptomycin, but it does constitute an important factor as regards permanent cure with the drug. It is imperative that all preexisting organic abnormalities be corrected while streptomycin is being administered. When one considers the rapidity with which streptomycin-resistant organisms develop, the importance of this is obvious.

RECOGNITION AND CONTROL OF STREPTOMYCIN TOXICITY

Streptomycin resembles penicillin in that it has a limited but definite toxicity for man. Fortunately, most of the untoward reactions appear to be transient and not of a serious nature, although in some instances it is necessary to discontinue the use of the drug· Furthermore, sensitization to streptomycin is observed in certain cases receiving interrupted therapy. Hence, all patients who are treated with the drug should be watched carefully for various reactions.

The most serious reaction to streptomycin is a disturbance of the eighth cranial nerve, as manifested by dizziness, tinnitis, vertigo and deafness. This reaction occurs usually after relatively large doses of the drug have been administered over long periods. Approximately 10 per cent of patients receiving streptomycin for more than 14 days will develop manifestations of this neurotoxic effect. In the patients so affected, there seems to be no objective evidence of improved labyrinthine function, although there does occur some functional compensation for the disability. When large doses of streptomycin are being used for longer than two weeks, the patient must be followed closely for the occurrence of diminished auditory acuity, tinnitus, or vertigo. If any of these should develop, then the drug is best discontinued, unless streptomycin is the only available life-saving measure.

In contrast to the above, the following untoward reactions have been produced by streptomycin: Arthralgias, myalgias, headaches, nausea and vomiting. Fever and skin rashes likewise have been noted. Seldom do these toxic effects require the withdrawal of streptomycin.

AVOID THE USE OF STREPTOMYCIN FOR MINOR INFECTIONS

As indicated, streptomycin is an effective agent against a variety of gram-negative and gram-positive bacteria. However, it does possess definite disadvantages, namely, streptomycin-sensitive organisms will develop resistance to the drug quite rapidly, and sensitization to streptomycin has been noted in individuals in which interrupted treatment was employed. Therefore, it seems reasonable that streptomycin be employed only in the treatment of serious infections where there is no other effective form of therapy. Certainly streptomycin should not be used in the control of medical trivialities·

SUMMARY

In streptomycin we have another remarkable antibiotic agent for the control of many types of bacterial infections. However, its rational use in the treatment of disease requires an understanding of certain factors inherent in this type of therapy, namely:

1 Identification and sensitivity of invading organism.

2. Adequate concentration of streptomycin at site of infection.
3. Suppression of infecting organism.
4. Eradication of foci of infection.
5. Recognition and control of streptomycin toxicity.
6. Avoid the use of streptomycin for minor infections.

Discussion

Dr. John W. Lynch (Seaford): Mr. President and members, as I sat and listened to Dr. Flippin's masterly presentation I certainly felt that it didn't behoove me to get up here and say anything about streptomycin. I have personal knowledge of only one case, and other than that what I do know about it is what I have read. I feel sure also that not many general practitioners have had an opportunity to use streptomycin, but now that it will be more available for civilian use, this topic which Dr. Flippin has given us is a very timely one.

There are a couple of questions I would like to ask Dr. Flippin. One is: does it alkalize the urine very strongly and would he comment a little more on the streptomycin in the treatment of syphilis? Again I want to thank Dr. Flippin for coming down here; I think he has given us a most timely topic.

Dr. John W. Howard (Wilmington): Again I thank Dr. Flippin for coming down. My few remarks are from a laboratory point of view. We are dealing with a drug that is expensive. It is still experimental, and we should tread our way very cautiously both from the point of view of our results and the cost to the patient. Most of the hospitals in Wilmington at the present are set up to do a simple procedure for streptomycin sensitivity. We are not doing a titration. We are doing nothing more than a contact zone, streptomycin impregnated on filter paper, and we get a clearing zone around the test area in which the organism is separated.

I can add my belief to that of Dr. Flippin's that we should be sure before we embark upon a program of streptomycin therapy today.

Dr. Flippin: Thus far, we have had no experience with the treatment of syphilis with streptomycin. From preliminary studies elsewhere, there is reason to believe that it is effective. Although I am not certain, I believe that streptomycin is more effective in an alkaline urine. Again, I wish to thank you for this opportunity.

'MODERATE DRINKING' IMPLIES TAKING TWO COCKTAILS A DAY

A moderate drinker takes two cocktails or highballs a day, states a medical consultant in answer to a query in the July 12 issue of *The Journal of the American Medical Association.*

His reply says that "for the average, so-called healthy adult, on a good diet, two cocktails or highballs a day would by most informed people be considered 'taking alcohol in moderation,' particularly if not taken on an empty stomach before the morning breakfast, and if taken shortly before, during or shortly after the evening meal. But taken under identical conditions and rate, this quantity of alcohol would produce much higher blood alcohol in a person weighing 100 pounds than in a person weighing 200 pounds. The late Dr. Raymond Pearl of Johns Hopkins Medical School reported that moderate drinkers live as long as do total abstainers. On the other hand, heavy or so-called excessive drinkers shorten their life span, evidently through the action of alcohol. As regards the immediate and temporary action of alcohol (the degree of inebrity) there are considerable individual variations in tolerance. But it is not yet known whether persons having low tolerance suffer chronic injury more readily. All that can be said at present is that to the average normal adult possible chronic injuries from the amounts of alcohol mentioned have not yet been proved or clearly separated from hereditary factors in the organ potentials, from the inevitable effects of disease, from accidents, from the strain of living and from the aging processes."

Another *Journal* consultant, reviewing the effects of the moderate use of alcohol, states: "One of the best sources of data concerning the effects of the moderate use of alcohol is that offered by the statistical studies made in the Medico-Actuarial Mortality Investigation carried out by a Joint Committee of the Actuarial Society of America and the Association of Life Insurance Directors. The published reports in 1914 and again in 1929 consisted in a study of over 2,000,000 policies. In this investigation the term 'moderate drinker' was applied to persons who took an average of two glasses of beer or one glass of whisky or their equivalent daily. Of this group the better class of risks, those who were accepted at the standard rates of premium, indicated a mortality of 15 per cent higher than the average of all insured lives treated as standard risks, i. e. a relative mortality of 115 per cent. It is pointed out, however, that, while the habits were recorded at the time of application, the higher mortality than usual may be due largely to a proportion of the applicants becoming immoderate drinkers at a later date. The death rate in this group was higher than the normal from cirrhosis of the liver, cerebral hemorrhage and pneumonia.

"By comparison, whereas some members of the 'moderate drinker' group were allowed policies at the normal rates of premium, another group, which consisted of those who drank to excess not oftener than three times a year but those whose bouts lasted two or three days at a time, were considered as distinctly hazardous risks, with a relative mortality of 331 per cent."

Does It Pay to Work Harder?

WILLFORD I. KING, Ph. D.,*
New York, N. Y.

Does it pay to work harder? That this question inevitably thrusts itself before every financially successful business and professional man today is clearly indicated by the accompanying table. It reveals how, as income is added, Federal taxes climb, and how the fraction of the added receipts retained by the individual dwindles as income expands.

For the man who earns $4,000 above his exemption, it manifestly pays to work harder and earn $2,000 more, for Uncle Sam lets him keep three dollars out of every additional four that he gains by his hustling. The man making $8,000 above his exemption will probably feel it worth while to add $2,000 to his income, for he is still privileged to keep two out of every three added dollars. However, for the man having an income of $15,000 above his exemptions, the worthwhileness of striving to take in another $5,000 raises serious questions in his mind, for, in his case, the Federal Government takes more than half of the added gains. One can hardly expect the man receiving $100,000 to be much interested in doubling his income, for, if he does, he can only keep for his own use one dollar out of every additional seven.

Obviously, the present income tax law constitutes an effective device for preventing the most efficient business and professional men from fully utilizing their talents. The law acts, therefore, as a damper on production, and hence lowers the income of the average citizen.

In addition, it prevents him from accumulating capital, and thus hampers not only *his* progress, but that of the nation as a whole. These are the results which advocates of progressive taxation persistently refuse to consider. There are none so blind as those who will not see!

HOW ADDED EARNINGS ARE SHARED IN 1947

Individual's Net Income After Exemptions	Additional Income Gained By Working Harder to Reach Next Higher Figure In Left Hand Column	Additional Dollars Taken By Federal Income Tax	Dollars of Gain Remaining After The Tax Is Paid	Per Cent of Gain Remaining After Tax Is Paid
$4,000	$2,000	$494	$1,506	75.2
6,000	2,000	570	1,430	71.5
8,000	2,000	640	1,360	68.0
10,000	5,000	1,992	3,008	60.2
15,000	5,000	2,403	2,597	51.9
20,000	10,000	5,662	4,338	43.4
30,000	10,000	6,194	3,806	38.1
40,000	10,000	6,726	3,274	32.7
50,000	25,000	18,383	6,617	26.5
75,000	25,000	20,092	4,908	19.6
100,000	100,000	85,025	14,975	15.0
200,000	300,000	259,350	40,650	13.6
500,000				

The x-ray film, particularly in surveys, is only a screen in tuberculosis case finding. It can only pick out the normal from the abnormal. It is the important clinical follow-up investigation that must tag the positive carrier. —Maurice Kovnat, M. D., J.A.M.A., Mar. 29, 1947.

Many a maternity patient has received obstetric care in its most literal sensethat is, care which is focused only on her reproductive organs—and died from tuberculosis or diabetes or cancer soon after delivery. Hazel Corbin, R. N., *Jour. of Nursing,* Aug., 1946.

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* Professor Emeritus of Economics, New York University.

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*Feinberg, S. M.: J.A.M.A., 132: 702 (Nov. 23) 1946.

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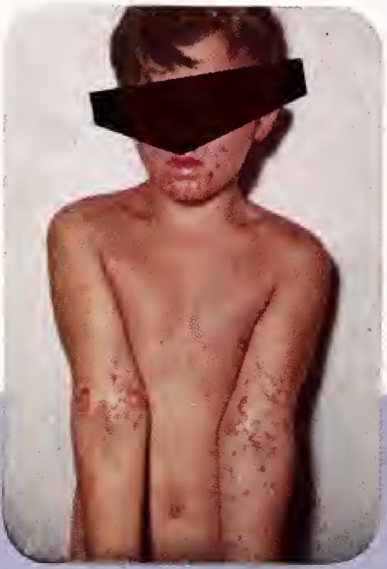
- Asthma
- Urticarial Food and Drug Reactions



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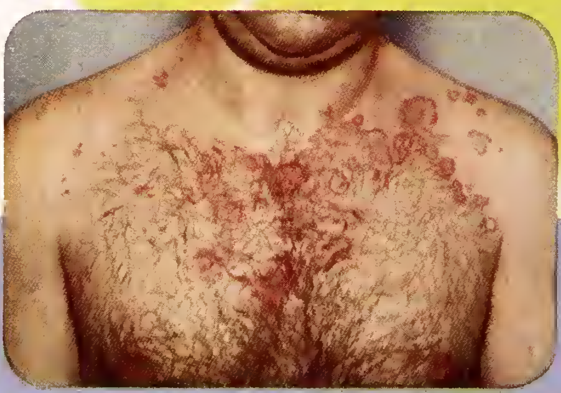

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+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

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Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Subscription price: $2.00 per annum, in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

VOL. 19 JULY, 1947 No. 7

DECAY OF THE FAMILY

It is alleged that the institution of the family in Western civilization is going on the rocks. *Life* magazine[1] discusses the question editorially, pointing out that according to Dr. Carl Zimmerman, Harvard sociologist, "the Western family has collapsed twice before, in Greece about 300 B. C. and in Rome about 300 A. D., in each case marking the decline of those states." Decay of the family in Greece and Rome was marked by corruption, vanishing birthrate, demigration of parents, juvenile and adult delinquency, says *Life*.

Certainly, ascumulating statistical evidence seems to lend weight to the warnings from many sources that something is happening to the modern family. Such a state of affairs should be of the gravest concern to doctors of medicine. It is probably inevitable that as civilizations evolve from their simpler, more rudimentary forms to their complex maturity the diseases of industrial middle age and early atomic-age senescence invade their cells destructively. Oswald Spengler elaborated the thesis in his *Decline of the West* some time ago.

If the family decays, what then becomes of the family doctor? The ready answer would be that he becomes the decayed-family doctor. How near to that status is he now? If the decay of the family is marked by the symptoms recited in our first paragraph, should not medical educators, medical societies, and others interested in the future of medicine, give thought to the fact that a falling birthrate will necessitate fewer obstetricians and pediatricians, but probably more gynecologists, genitourinary practitioners, and psychiatrists. The decayed-family practitioner could conceivably be a combination in one person of formerly separate specialists best calculated to make of him a decayed-family friend and counselor. His premedical curriculum could include law, sociology, the rudiments of police work, philosophy with special emphasis on Spencer and Spengler, abnormal psychology, the rudiments of statism, with possibly some attention to English composition.

The medical curriculum could well omit any attention to all but a certain few infectious diseases, substitute nuclear physics and diseases of irradiation, which may be reasonably expected to increase as more and more radioactive gases and other substances are released. There you have the ideal, shortened course to produce the decayed-family practitioner. Medicine should be ever on the alert to be functional in its service to humanity, wherever that may lead, even to the establishment of the qualifications and training of decayed-family doctors, if need be.—Editorial, *N. Y. S. J. M.*, July 15, 1947.

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[1] March 24, 1947, p. 36.

"GOLDEN DOZEN" DISCOVERIES ADVANCE MEDICAL PROGRESS

A "Golden Dozen" discoveries that are further advancing medical progress in the United States are listed by Doctors Theodore G. Klumpp, president, and Justus B. Rice, vice-president and medical research director of the Winthrop Chemical Company in a review appearing in "Record of Chemical Progress" published by the Kresge-Hooker Scientific Library, Wayne University, Detroit.

Authors of the papers noted that the synthesis of penicillin was a notable achievement of 1946, but stated it was "extremely unlikely that synthetic penicillin will ever be able to compete with the product derived from mould, because of the astronomical quantities of the latter now made possible by mass production.

"The lowering of costs made possible by mass production methods from $20 for a sufficient amount to treat a case of gonorrhea three years ago to only a few cents now puts penicillin within the grasp of every patient," the paper states. "Although cost of streptomycin, another antibiotic, is still high, there has been a corresponding decrease, with further reductions in sight."

Listed as the twelve "golden" medicinal advances of 1946 are: radioactive isotopes, byproducts of the atomic pile; two antihistamine drugs, pyribenzamine and benadryl, that "appear effective in controlling symptoms of hay fever and uticaria"; the antibiotic, streptomycin, the value of which was "placed on a firm foundation in 1946"; cytochrome C, an enzyme, useful in such diverse disorders as various kinds of shock, angina pectoris, Raynaud's disease, barbiturate poisoning, pulmonary emphysema, degenerative diseases associated with arteriosclerosis and certain cerebral dysfunctions; rutin, a flavonol compound, derived from green buckwheat, found useful in diabetic retinitis; the metabolic agent, n-propyl thieuracil, that may prove to be "a really effective, safe, medical treatment for many cases of thyrotoxicosis"; dengue fever vaccine; mumps vaccine; the antimalarial aralen; the progress made in synthesis of compounds closely similar to vitamin A; the use of curare, the ancient Indian arrowhead poison, in anesthesia and in the treatment of conditions characterized by muscle spasm or spasticity; and, finally, advances made in cholera therapy, sharply reducing mortality by the use of sulfadiazine and sulfaguanadine.

Detailed comment follows:

1—*Radioactive isotopes*: Invention of the atomic pile came at precisely the right moment in medical history. By-products of the atomic pile may yet pay the debt to humanity contracted at Hiroshima and Nagasaki.

2—*Antihistamine drugs*: Two, pyribenzamine and benadryl, appear to be the most effective in controlling the symptoms of hay fever and uticaria. They have been particularly useful in preventing or ameliorating the severity of uticaria produced by penicillin in sensitive individuals. Pyribenzamine appears to have a slight edge on benadryl.

3—*Antibiotics*: During 1946, the value of streptomycin was placed on a firm foundation. Perhaps its most dramatic effects are seen in the treatment of tularemia. Hardly less dramatic are its effects on certain forms of meningitis, bacteremia and urinary tract infections untouched by penicillin, that is, those caused by susceptible strains of Pfeiffers bacillus B. Coli, B. proteus, Friedlander's bacillus, B. pyocyaneus, and Salmonella. In cases of peritonitis, endocarditis, and chronic lung infections produced by these organisms and some other susceptible species, its activity is definite, but the results of treatment are usually less spectacular. Insufficient evidence is available at present to assess with any degree of certainty the value of streptomycin in typhoid fever and brucellosis. While streptomycin cannot be relied upon to cure tuberculosis, it does, nevertheless, exercise a profoundly beneficial effect on the course of the disease.

4—*Enzymes*: One of the most intriguing preparations placed in clinical research in 1946 is cytochrome C, an "enzyme," which plays an important role in controlling tissue oxygeneration. It appears at the present time to be useful in such diverse disorders as various kinds of shock, angina pectoris, Raynaud's disease, barbiturate poisoning, pulmonary emphysema, degenerative diseases associated with arteriosclerosis and certain cerebral dysfunctions. Possible effects on the aging process invite the imagination.

5—*Flavonol compounds*: Rutin, a flavonol compound similar chemically to hesperidin, but derived from green buckwheat, has been found useful in diabetic retinitis.

6—*Metabolic agents*: In n-propyl thiouracil, a derivative of thiouracil, there are excellent grounds for optimism. It may prove to be the "bee without the sting" and that a really effective, safe, medical treatment for many cases of thyrotoxicosis has been found.

7—*Dengue fever vaccine*: Extensive clinical trials proved the worth of Sabin and Schlessinger's vaccine for dengue fever. For the first time good protection is possible against this "heart and back-breaking" disease.

8—*Mumps Vaccine*: A formal-inactivated suspension of mumps virus was found to give some degree of protection to children. Although the present vaccine is not the final word in mumps prophylaxis, it does appear to be the first successful step toward that goal.

9—*Antimalarials*: During 1946 the powerful new antimalarial, aralen, reached the market and came into widespread use. Although its toxicity makes it unlikely that pentaquine, another new antimalarial, will be widely used, the discovery of its point of action demonstrates the exoerythocytic cycle of the malarial parasite, causing relapses, is vulnerable to attack. A true causal prophylactic for malaria and a permanent cure for all types of the disease are in sight.

10—*Vitamins*: Notable progress has been made with the synthesis of compounds closely similar to vitamin A. None yet produced, however, approach crystalline vitamin A in biologic potency.

11—*Curare*: When curare is used together with an anesthetic agent for major surgical procedures, perfect muscular relaxation can be obtained with very much smaller amounts of anesthetic than would otherwise be required. The dose must be carefully controlled and expertly gauged to prevent paralysis of respiration. In addition to its use in anesthesia, it is finding a place in the treatment of conditions characterized by muscile spasm or spasticity.

12—*Cholera therapy*: During 1946 chemotherapy has been extended to one of the most ancient and deadly of epidemic diseases, cholera. In previous epidemics, cholera has carried a mortality up to 70 per cent, but in a recent study the mortality has been sharply reduced by the use of sulfadiazine and sulfaguanadine. Only three deaths occurred among 19 seriously ill patients whereas 23 of 24 untreated succumbed. The value of rehydration was strikingly demonstrated. In a group of 35 patients treated with blood plasma and chemotherapy, there was no mortality.

Cancer of the Cervix

Married women who bear children are more susceptible to cancer of the cervix than unmarried women, according to a 21-year study of 1,342 patients who were treated at Bellevue Hospital, New York, one of the largest general hospitals in the country.

Writing in the June issue of the *American Journal of Roentgenology and Radium Therapy*, published for medical specialists in x-ray and radium, two New York physicians connected with Bellevue Hospital state that child bearing appears to be an important factor in the high incidence of cervical cancer, which is one of the commonest of cancers occurring in women.

The doctors who made their report in the Journal were Ira I. Kaplan, Director of the Radiation Therapy Department, and Rieva Rosh, visiting Radiation Therapist, of Bellevue Hospital, which is a free city institution.

They reported on the results of x-ray and radium treatment on 1,342 patients, with cancer of the cervix over a 21-year period. Of the 1,342 patients, 426 were "so extensively involved" that no active treatment could be attempted.

Of the 916 patients who underwent treatment, 853 were married and 13 single. In 50 cases the marital status was not recorded. Of the known married patients, 777 had borne one or more children, and of these 418 bore four or more children.

"It appears therefore," the doctors wrote, "that bearing children did have a definite influence on the formation of cancer in these cases."

The two doctors said that most of the cervical cancer cases seen at Bellevue are in the advanced stages.

"New York City has a very large Negro population and one would expect a large number of cases of cervical cancer in Negro women," the doctors stated in their report. "However, only 163 were of this race in our service. There were 707 white patients treated and in 46 cases color was not recorded.

"While as a whole the number of Jewish patients coming to Bellevue Hospital is still small, our survey shows that cervical cancer is not common among Jewish women. Of the 1,342 cases, only 25 were in Jewish women. The reason for this small number is not definitely understood."

The two New York physicians stated that on the basis of their experience over 21 years, they believe that x-ray and radium are the best combination for treatment of cervix cancer. X-ray threapy, they said, should precede the local application of radium, because it is "extremely effective in controlling pelvic involvement, alleviates infection and often appreciably reduces the local lesion."

Medical Publications Needed Overseas

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Probably no greater mental trauma is ever inflicted by a physician than when he first tells a patient that he or she has tuberculosis. The patient probably knows absolutely nothing about tuberculosis except that it is a dread disease. Material and social problems combined with the psychological problems of separation from family, complete change of living routine, sudden cessation of all activity, ignorance of the disease and what it will mean to him and an unknown future is apt to create in the patient a mental turmoil which is a known detriment to his eventual recovery and return to a useful life. C. J. Stringer, M. D., Hospitals, August, 1946.

During the past 50 years tuberculosis has been declining more rapidly in childhood and adolescence than at any other age. In fact, tuberculosis has become primarily a disease of middle-aged and old people. In Massachusetts the reaction rate to the tuberculin test in school children dropped 50 per cent between 1925 and 1940, and the amount of pulmonary tuberculosis found by mass examination fell proportionately. In Tennessee, with a high tuberculosis death rate, the state department of health reports five cases per 1,000 among high school students, compared with two per 1,000 found in Massachusetts. Alton S. Pope, M. D., NTA Bull., Nov., 1946.

BOOK REVIEWS

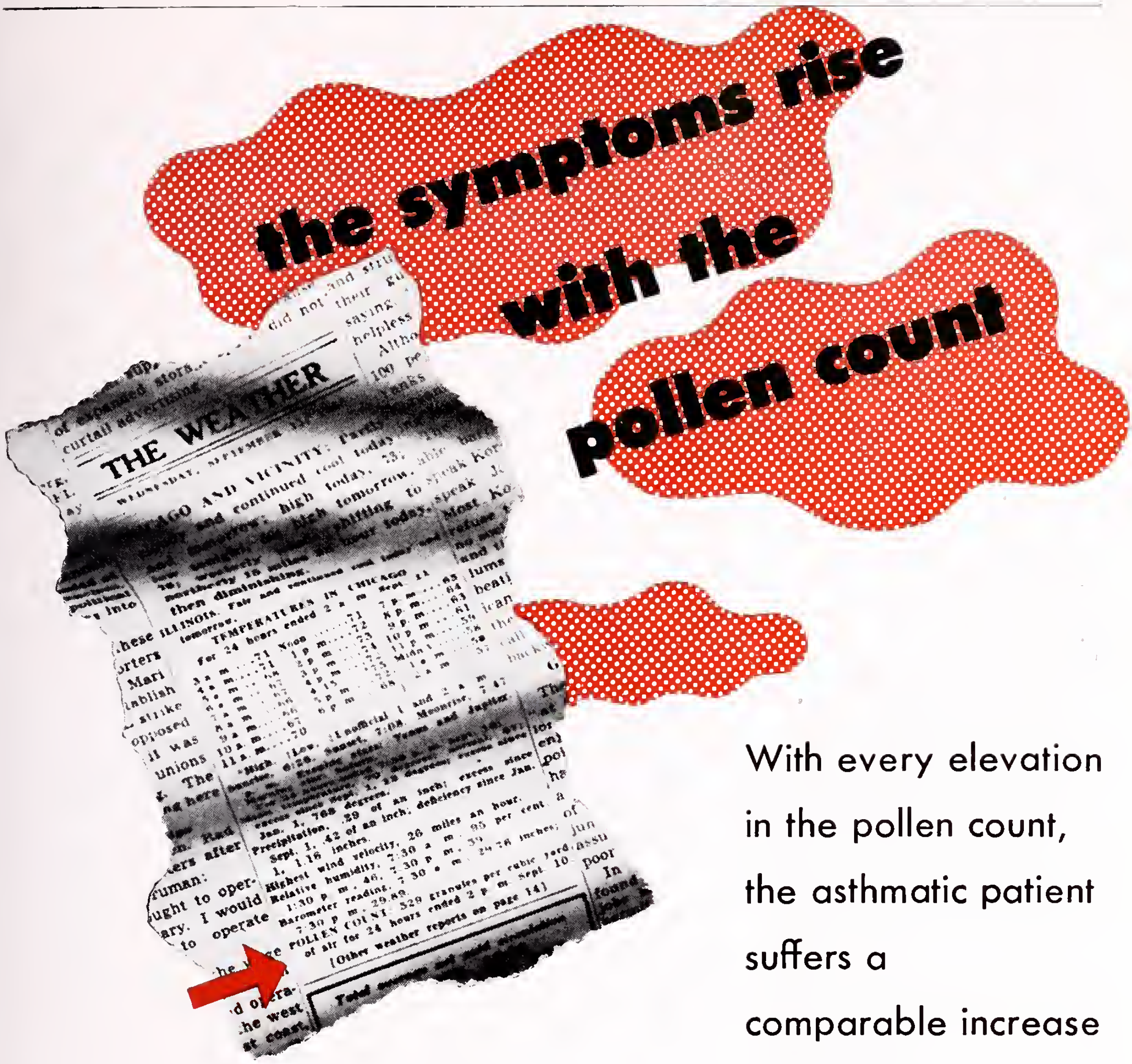
Clinical Allergy: A Monograph on the Management and Treatment of Allergic Diseases, for General Practitioners and Students of Allergy. By Alexander Sterling, M. D., and Bea Sterling Hollander, A. B., M. D. Pp. 198. With 16 illustrations. Cloth. Price, $5.00. International Universities Press, New York, 1947.

This small volume is essentially a primer on clinical allergy. The subject is briefly discussed and expounded largely by the case presentation method.

A book of this type would little interest a physician frequently meeting cases of allergy in his practice. For the individual who occasionally sees or more frequently refers his cases, this volume may serve as his catechism, if he desires to improve his knowledge.

Physician's Handbook. By John Warkentin, Ph. D., M. D., and Jack D. Lange, M. D. Fourth Edition. Pp. 282. Price, $1.50. University Medical Publishers, Chicago, 1947.

This conveniently sized pocket manual is remarkable in the wealth of information it gives in the compass of its pages. It is admirably suited for the intern and younger physician, as well as for the older practitioner. A quick perusal of its pages will refresh the memory on many a clinical or laboratory detail of value.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MIGRAINE	73	48	1	24	65.7
ANGIONEUROTIC EDEMA	54	46	1	7	85.2
ATOPIC DERMATITIS	66	42	1	23	63.6
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CONTACT DERMATITIS	63	49		14	77.7
PHYSICAL ALLERGY	11	7		4	63.6
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REACTIONS—BIOLOGICS	12	12			100.0
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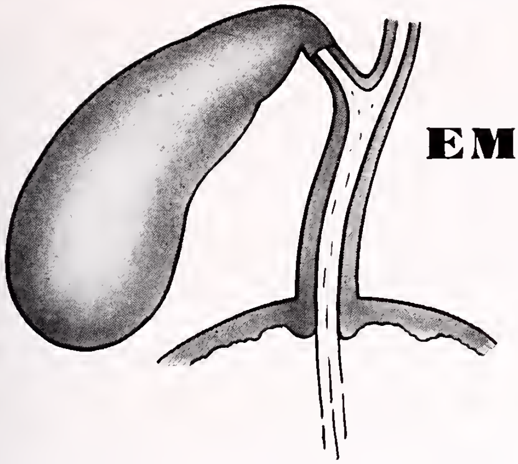

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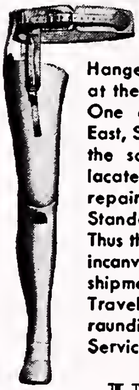

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[1] J. South Carolina M. Assn. 52:186 (July) 1946.

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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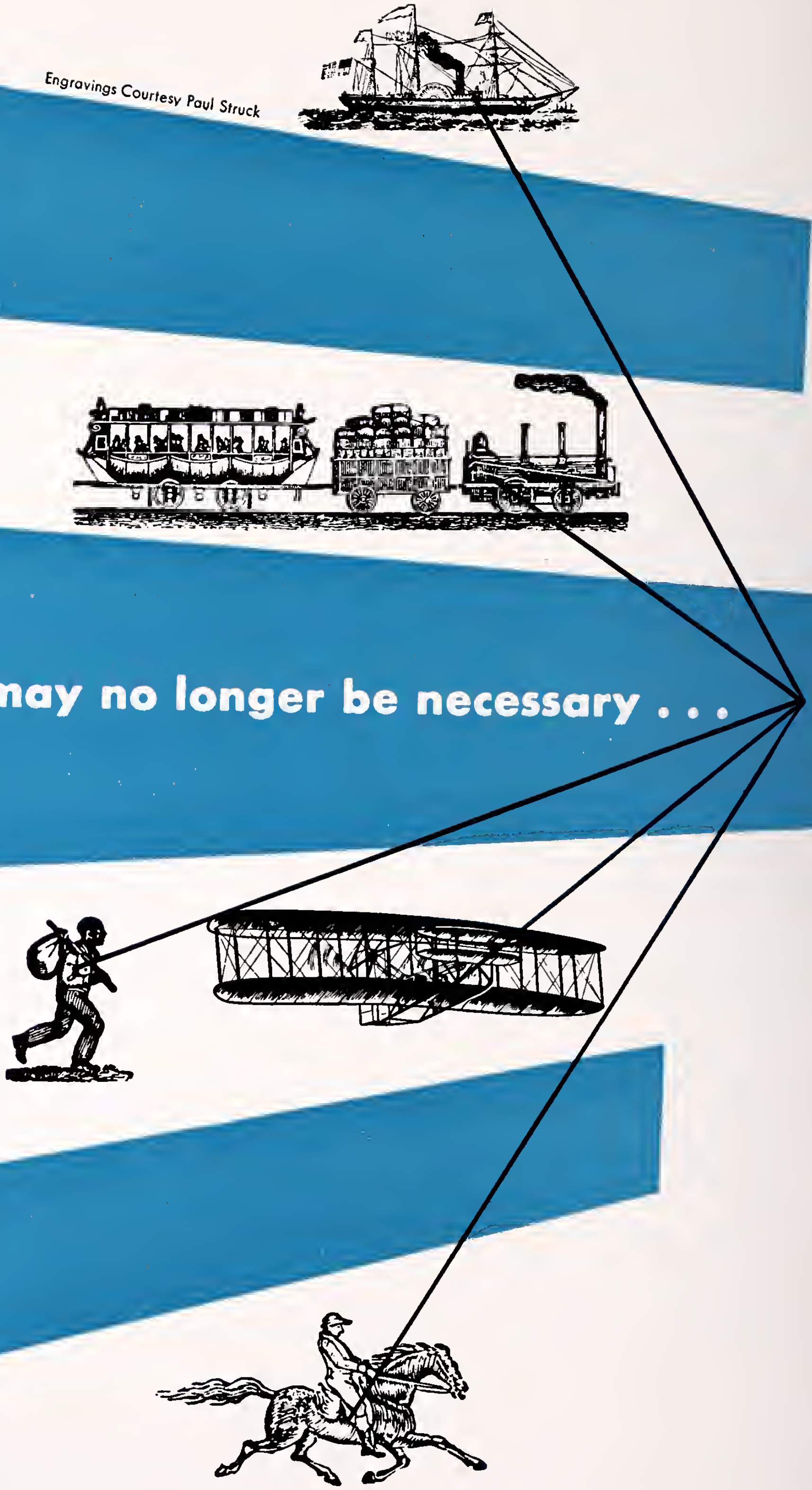

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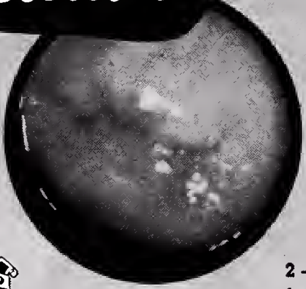

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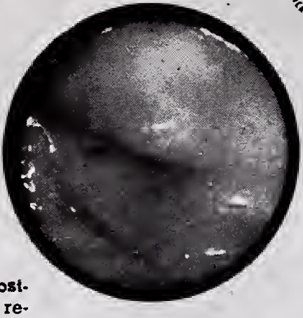

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*"Allergy in Practice," Feinberg, S. M., Second Edition: 1946, Year Book Publishers, Chicago

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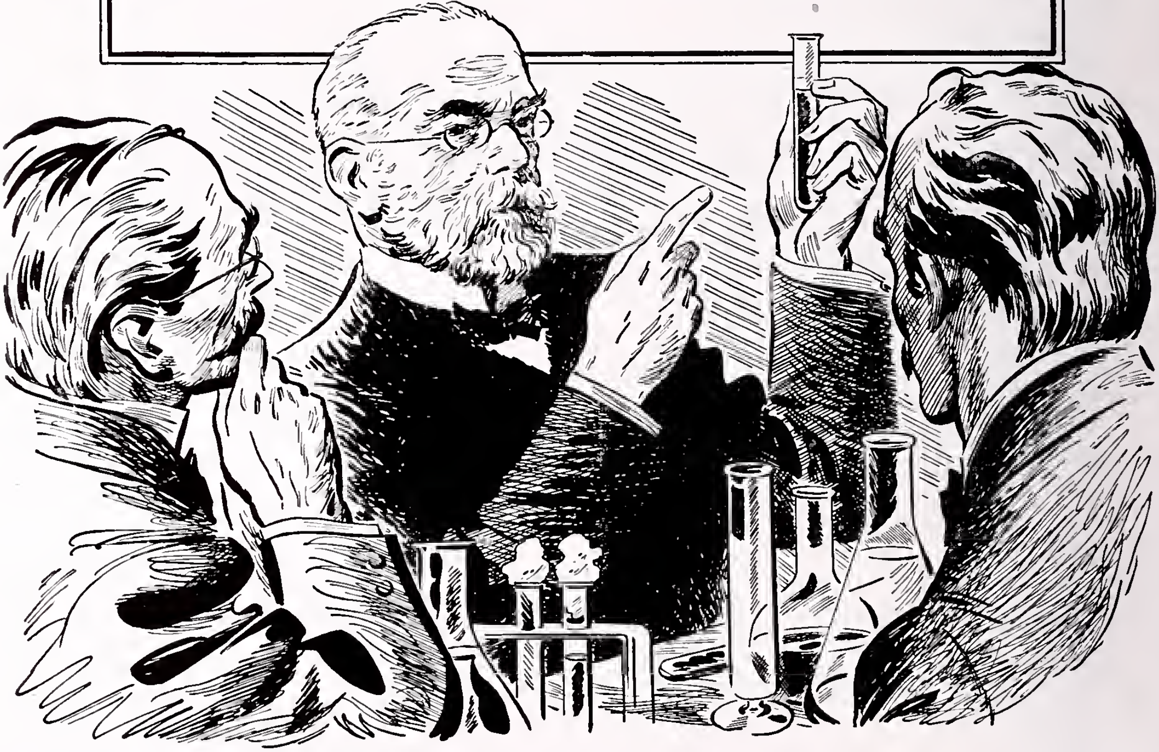

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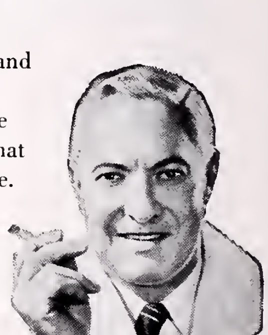

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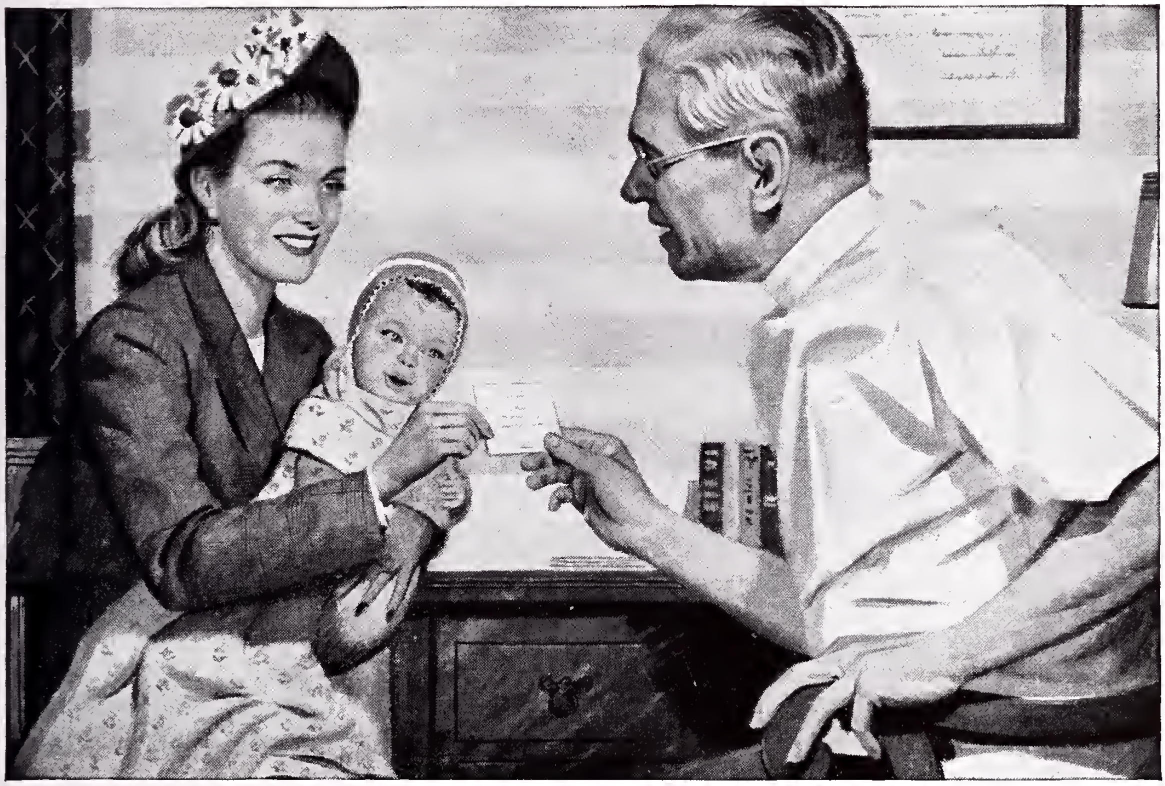

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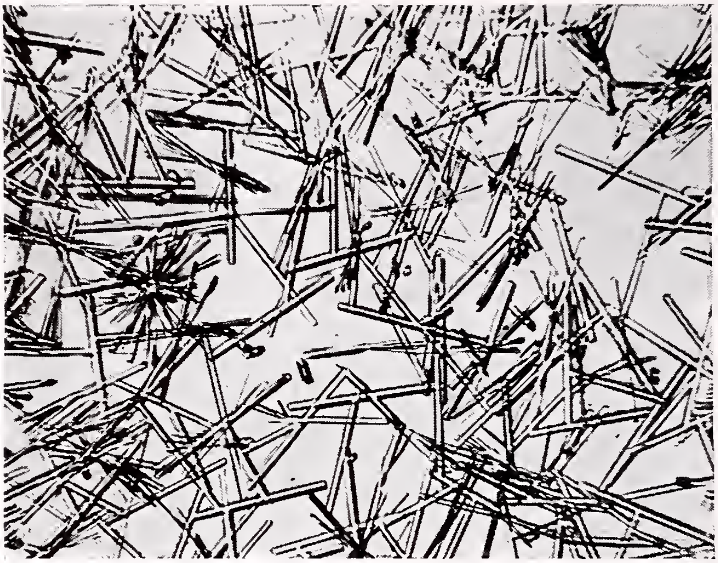

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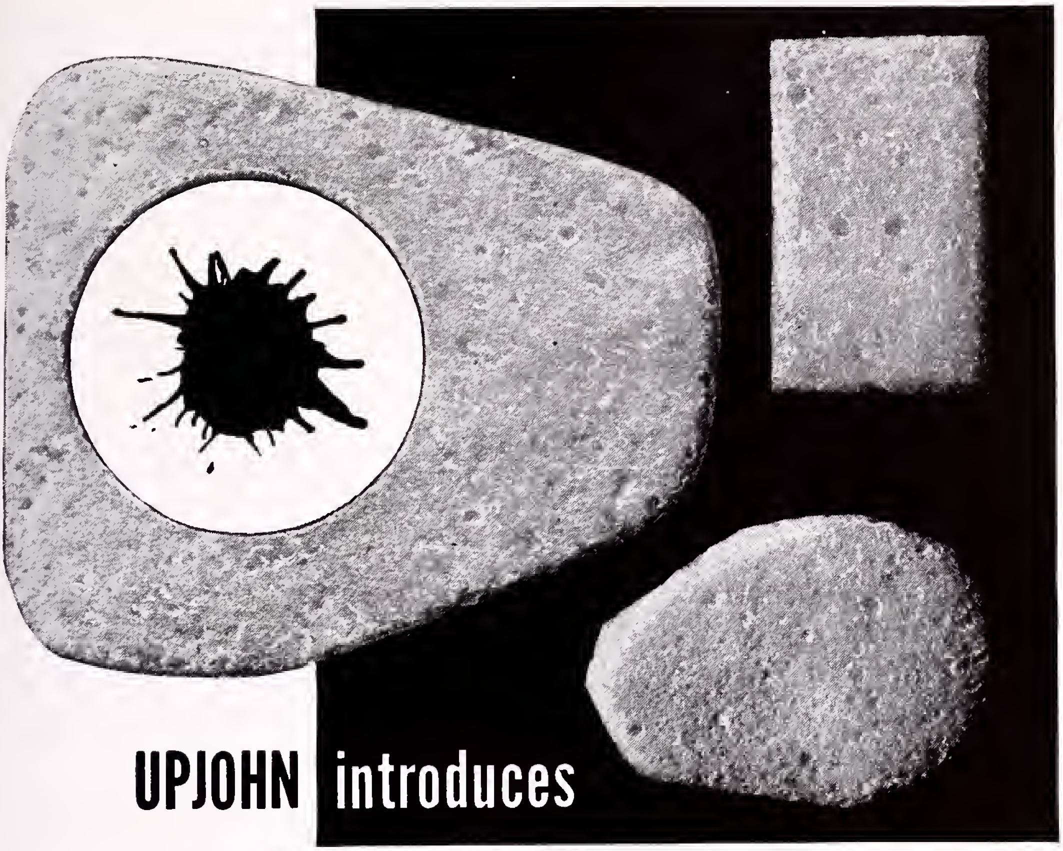

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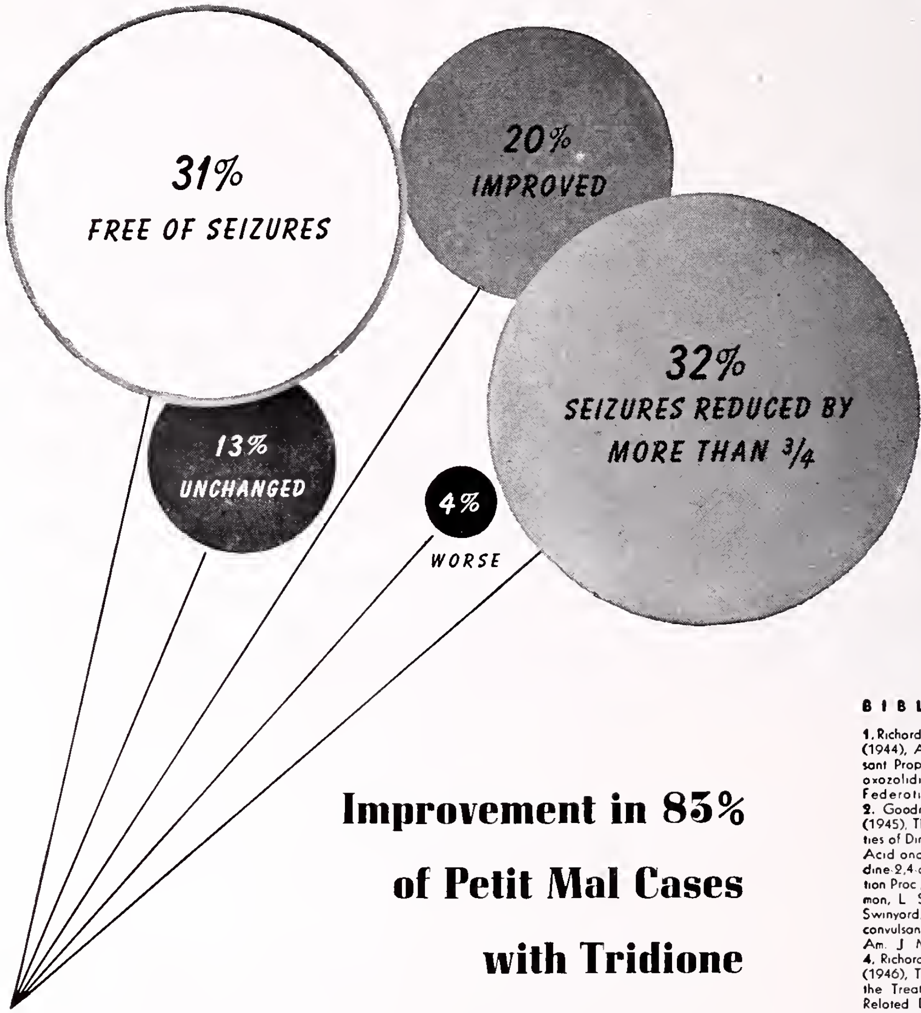

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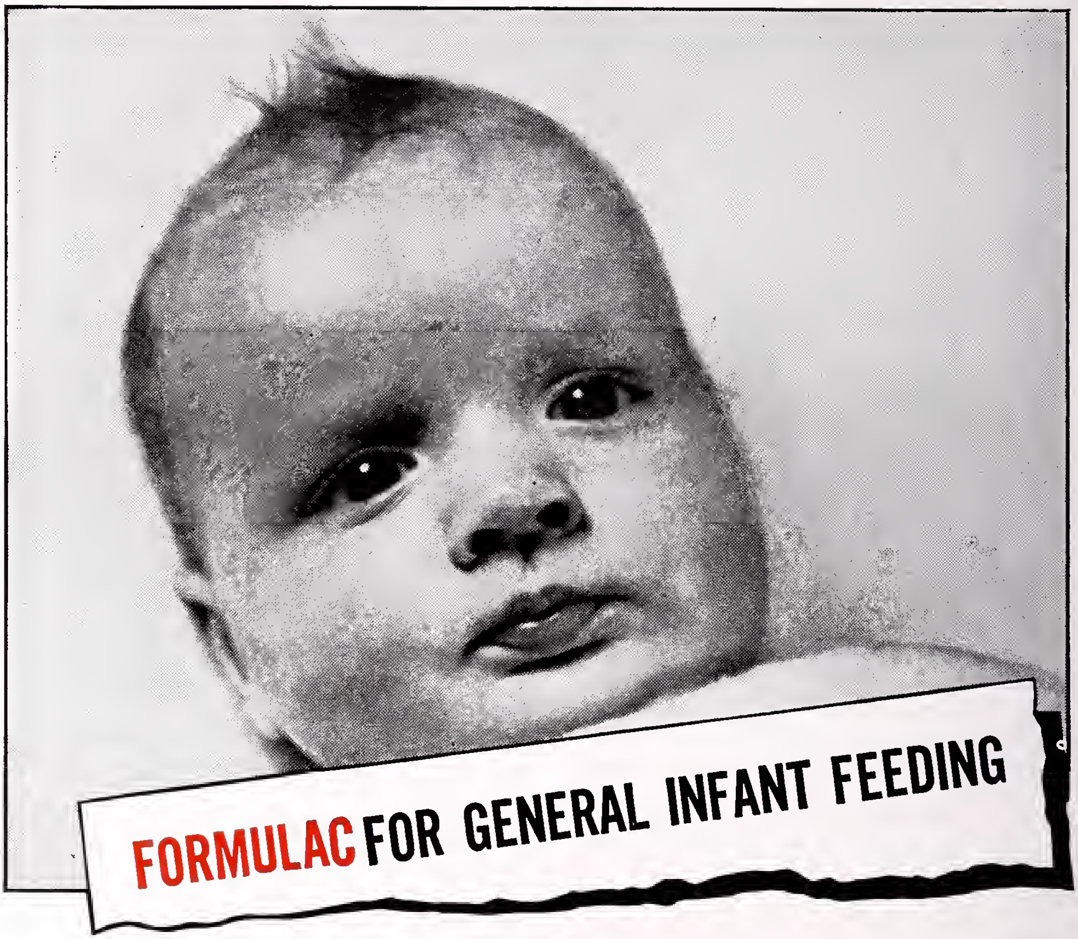
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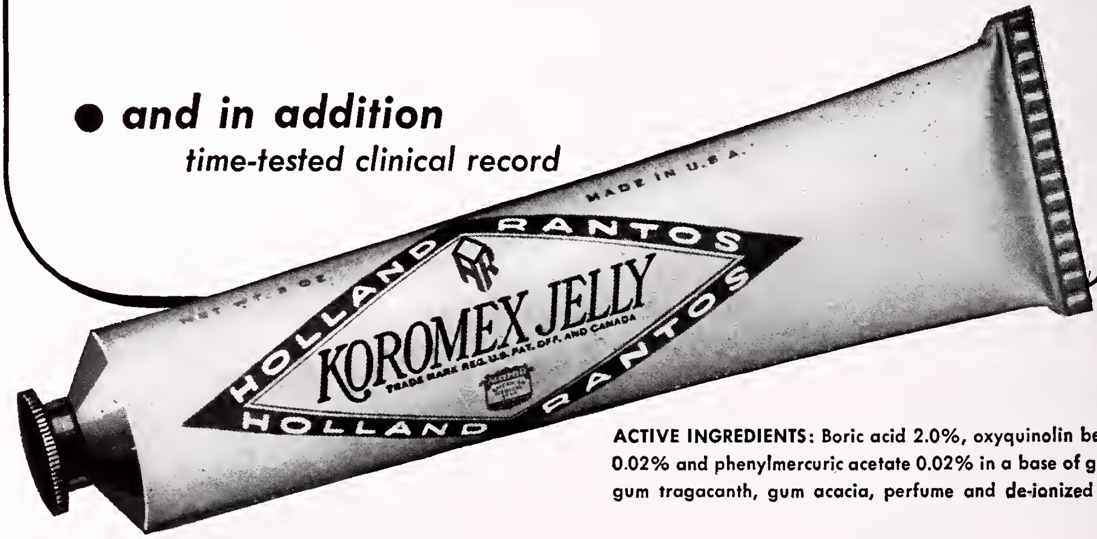

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VOLUME 19
NUMBER 8

AUGUST, 1947

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COMMON PROBLEMS OF THE MEDICAL PRACTITIONER AND THE SPECIALIST IN THE DIAGNOSIS AND TREATMENT OF GYNECOLOGIC DISEASE[*]

Thaddeus L. Montgomery, M. D.[**]
Philadelphia, Pa.

The medical practitioner and gynecologist have many common problems in the diagnosis and treatment of gynecologic disease concerning which much more rapid progress could be made if the two were to get together at regular intervals, determine better methods of cooperation, discard outworn ideas and ancient technics, and discuss the new and worthwhile in this field.

I would like to look upon today's paper as a step in this direction and I trust that my remarks will stimulate a free discussion of the various points I have to present. Some years of activity as a medical practitioner, apprentice in obstetrics and gynecology, and finally as a specialist, have convinced me that successful application of knowledge in this field is only achieved when there is complete cooperation between the general doctor and the gynecologist.

Gynecologic Diagnosis

First of all, in the management of gynecologic disorders we must get more promptly at the diagnosis, and this move should initiate with the family practitioner. It is my opinion that there are many patients who come to a gynecologist for pelvic examination and diagnosis who could have been just as well, or better, taken care of by their family practitioner. Under ordinary circumstances the family doctor should be in a position to make a satisfactory pelvic examination and establish a diagnosis of health or disease in the reproductive area. He should be able to treat the minor or medical lesions, and the only patients who should ordinarily go to the gynecologist are those who present an unusual problem in diagnosis or who require the particular technics in treatment of a specialist. Several factors have mitigated against the success of this plan. Some of these I would like to discuss.

1. The doctor may not have been properly trained in medical school or in internship, or subsequently in the few postgraduate courses available. For example, I never placed a speculum in the vagina during my student days, and I had no out-patient work during internship which permitted me to learn about methods of office diagnosis. Today, in most of our medical schools this has been corrected, and I am happy to say the senior clerks participate in the out-patient department and one of the most important things they are taught is the technic of a pelvic examination. They are shown how to take smears of the urethra and the cervix, how to collect a biopsy, how to make a bimanual vaginol-abdominal examination, how to treat common local infections and ulcerations to the cervix and vagina, and what cases to refer to the hospital for additional diagnostic and therapeutic measures. For those who have missed these opportunities we must provide refresher courses in our medical societies and postgraduate institutes. Full use must be made of moving pictures and other forms of visual education. Better methods of training undergraduates and postgraduates must be provided.

2. The general medical practitioner may feel that he is inadequately equipped to do this work. This seems hardly sufficient explanation since there is so little equipment actually necessary to perform satisfactory gynecologic diagnosis. A good table, a satisfactory light, vaginal speculum of a few sizes, applicators, a biopsy punch, a cautery or coagulation apparatus, a silver or chromium urethral catheter and a few solutions are practically all that are needed. And there is possibly no other

---

[*] Read before the Medical Society of Delaware, Dover, October 8, 1946.

[**] Clinical Professor of Obstetrics, Jefferson Medical College.

field of medicine where the organs involved are so accessible to inspection and palpation. There is nothing complicated about any of the diagnostic measures.

3. There is a feeling among general practitioners that so close is the friendship between doctor and patient that the patient is unwilling to submit to the embarrassment of a vaginal examination by her family physician. Probably this was true at one time, but I think it is a form of modesty that is vanishing rapidly. Most of the women in our population centers have been educated to the importance of complete physical examination and pelvic study. They rather expect such when they go to a physician, and they respect his thoroughness and judgment when he does. Among my patients are a number of our closest family friends, yet I do not think there is any great sense of embarrassment when these individuals come for gynecologic diagnosis or checkup. Social relations stop at the office door and the person becomes completely and strictly a patient with a medical problem.

4. And finally, the most deplorable situation is that in which the patient goes around the doctor and without his suggestion or approbation seeks consultation with a gynecologic specialist. How common this practice is you gentlemen know. How difficult it is to prevent, I can give you some idea. How unfortunate the situation is from the patient's standpoint is common knowledge and the patient soon finds out. The ideal plan, and the one which gives the greatest satisfaction to practitioner, patient and specialist is that in which the medical doctor calls up about the patient who puzzles him, makes a consultation appointment for the patient, thus establishing a thorough understanding between the three parties concerned. Under the latter conditions the specialist makes his report and his recommendations to the family doctor, the family doctor discusses these recommendations with the patient, and the two decide whether they are to be accepted or discarded, or further opinion sought. How important such a liaison is to the ultimate success of any treatment or operative procedure, or follow-up, cannot be impressed upon some patients. Nor will they ever understand how great a loss in personal security, or personal relationships with their own family physician has been sacrificed by their seeking outside advice on their own volition.

One sometimes wonders in practice in a large city whether the nature of medical practice itself is not changing. Instead of having a family doctor the patient has a specialist for her nose and throat, an internist for her gastro-intestinal tract, a surgeon for her gall bladder, and a gynecologist for reproductive tract disease. Which one of these several personages is to become their medical confidante is an unsettled question. Sometimes this seems to be the internist, sometimes it seems to be the gynecologist or obstetrician. But it might be any one of the four, and probably none of them is in a position to handle the over-all medical picture as well as a medical practitioner would be. However, there actually are few general practitioners in metropolitan areas, and as a result specialists are dividing up the human anatomy among themselves. I suppose this inefficient and unsystematic development inevitably will adjust itself as time goes on.

None or all of these difficulties are insurmountable. There are many men whom I have known who have gone into general medical practice and have equipped themselves thoroughly, both with physical equipment and with medical training, to do a high type of general medical practice much approaching that of the internist, and who occupy a position in their communities unrivalled by, and unencroached upon by any specialist. It is possible to turn back the public to the idea that their basic diagnosis should come from the family doctor, and if the latter will do this job the gynecologist will become a consultant and an accessory advisor. The winning back, however, depends not only upon high ethical standards on the part of the specialist, but also upon a demonstration of basic ability, of proper equipment, and of proper training on the part of the general practitioner.

THE DIAGNOSIS OF REPRODUCTIVE TRACT CANCER

The most important disease in gynecologic practice and the one to which we can best devote our attention is cancer—cancer of the cervix, cancer of the uterus, cancer of the ovaries. There is possibly no field in which there is greater need of improvement in practice and methods among both general practitioner and specialists. We would like to see these cases suspected sooner, diagnosed earlier, and brought to the hospital promptly for treatment. You no doubt would like to see them better treated, more effectively relieved, a higher percentage of cures, and the patient returned to you at least no worse off than when she left.

As to curability and treatment, I may say that there is no uniform and accepted plan for the handling of carcinomatous disease of the cervix. The pendulum swings between radical surgery and radiotherapy. Back and forth it goes and no one knows where it will stop. We all know, of course, that a high percentage of the early lesions can be cured by either of these two methods, and that only a small percentage can be cured by any method when the disease is late. Because there is a small chance of curability in some of the more advanced cases the gynecologist and the radiotherapist are led to treat all in the hope that alleviation or cure may result. Sometimes, of course, the situation is made worse.

DELAY IN DIAGNOSIS

As to the question of delay in diagnosis, patient and doctor may play a part, and this is worth discussing. In a cancer clinic we see many patients who put off seeing their doctor and have thus delayed too long in having a diagnosis made. But we have also seen many patients who suspected what was wrong and could get no physician to make an examination or take action. We have heard many pathetic and disturbing stories, on the basis of which we have formulated ideas as to where the doctor made his mistake. I would like to discuss some of these.

A. Endocrine therapy for bleeding. Patients tell us that when they complained of irregular vaginal bleeding, the doctor prescribed some pills or hypodermics without making any examination whatsoever. Medication was often continued for months. Oftentimes the patient went to several physicians before a pelvic examination was ultimately performed.

B. Second only in frequency to this error is the assumption that irregular bleeding and spotting is a normal condition during the menopause and should, therefore, create no alarm or require no examination.

C. Many times we have encountered the story of a patient with spotting or bleeding going to a doctor and being told to return when the bleeding has stopped because it is impossible to make a pelvic examination at this time. Frequently the bleeding never stopped.

D. The doctor may have made an examination and found no gross lesion of the visible parts and assumed, therefore, that cancer could not be present.

It seems scarcely necessary to point out the error of judgment in these various types of mishandling. On some points I would like to dwell for a few minutes.

In the first place irregular bleeding is abnormal at any time in a woman's life; it is a particularly significant and dangerous symptom at the time of the menopause and thereafter. It is a danger sign and requires prompt investigation, thorough pelvic examination, a diagnostic D. and C., and biopsy of the cervix if necessary.

In the second place there can be no basis for endocrine therapy at any time, without making an examination to determine what the medication is given for. A careful history and physical examination, a pelvic examination, a diagnostic D. and C., and biopsy of the cervix should rule out the possibility of cancer, and also help to established the nature of endocrine disturbances if such are present. Don't prescribe therapy blindly without it.

Third, never postpone an examination because a patient is bleeding. The presence of blood in the vagina does not in any way interfere with the making of a vaginal inspection or a vaginal palpation. It can be wiped away with a cotton sponge. As a matter of fact, when a patient is bleeding it is the best time to see where the blood comes from. If a patient has recurrent troublesome nosebleeds we ask the patient to return during the nosebleed to see where the bleeding point is, otherwise we may have great difficulty in finding the bleeding point. The bleeding helps us to localize the site of the lesion. Don't turn away the patient who is bleeding and tell her to come back when it is over. It may never stop. She wants to know *now* what is wrong with her.

If the medical practitioner will remember these significant facts, examine these patients early, and refer them for further diagnostic measures if necessary, we specialists will do our best to provide prompt and effective methods of treatment.

The public is getting pretty well educated to the importance of early and accurate diagnosis in cancer, and of efficient treatment. They are growing less tolerant of mistakes and shortcomings. It is up to the medical profession to get busy and keep pace with the laity.

In Philadelphia we have recently started a study of the delay period in diagnosis and treatment of pelvic cancer, and we are trying to bring physicians together to talk over these problems in the hope that a study of this kind will have as beneficial an effect on early diagnosis as the Maternal Welfare Committee has had in the field of maternal mortality.

Our old medical professor at the Jefferson, Dr. Thomas McCrea, used to say that more mistakes are made from not looking than from not knowing. I am convinced this is true in the field of gynecologic cancer. We make our mistakes from assuming that an innocent and harmless condition is present without thinking of and looking for the terribly deadly one that may actually be there. We will never improve this situation until we begin to look.

PERIODIC HEALTH EXAMINATIONS

The discussion of the problem of gynecologic cancer brings up the subject of periodic health examination in women. While this has been a slow development in general medicine, it has been a very rapid one in gynecology. Carefully conducted surveys, such as the one by Dr. MacFarland in Philadelphia, indicate the value of semi-annual checkups in detecting the presence of early cancer and in correcting other minor lesions of the reproductive tract. Women have heard about these studies, feel that they are important, and are anxious to participate in the program. Many have had difficulty in getting their doctors to do this for them. Perhaps this has been difficult or impossible during the war years when doctors were busy with active practice and had little time for the preventive phases of medicine. Now that the war is over and conditions of practice will improve, this procedure should constitute one of the important progressive moves in medicine.

There is no reason why most of these periodic health examinations should not be made by the medical practitioner rather than by a gynecologist, for here again too many patients have drifted into the gynecologist's office who could well be taken care of by family physicians. How important a part of practice this has become I can tell you when I say that 20 - 25% of the patients seen at the office come for periodic checkup. All of these are individuals who either have no family doctor or ones whom the family doctor specifically referred to the gynecologist for this purpose. This is routine work and routine diagnosis which might just as well be done by the family practitioner. The public is waiting expectantly for this service to be provided.

THE USE OF ESTROGEN

Another subject on which the gynecologist and the general medical man should get together is the question of administration of endocrine products. I say this because the indiscriminate prescribing of these products constitutes in many cases undesirable, and, in a few instances, actually dangerous therapy. Observation of both private and ward practice has driven me practically to the point of therapeutic nihilism as regards the use of endocrines in gynecology. I think it might be safely stated that altogether more harm than good has been accomplished.

One of the great difficulties that has been created by estrogen therapy is the production of temporary activity of the endometrium, mild hyperplasia, and then the occurrence of intermittent bleeding especially upon withdrawal of the drug. On continued administration of the drug the endometrium is built up to a point where it ultimately undergoes degeneration and bleeding occurs. Inasmuch as the administration of these preparations is most commonly conducted during the menopausal and post-menopausal period there is created a situation in which no one can tell whether the bleeding is due to the estrogen effect or whether it is due to adenocarcinoma of the endometrium. I have many patients in whom bleeding has obviously been the result of the estrogen effect, and many others who have carcinoma of the endometrium. In such cases it is impossible to make a diagnosis, of course, except by the performance of a diagnostic D. and C. Wherever gynecologists meet today the common topic is this group of cases and the enormous number of curettages which must be done to establish an accurate diagnosis.

The other problem of estrogen administrations is whether these can and do produce carcinoma. Most of the studies that have been conducted on this problem have to do with laboratory animals, and it is frequently stated that an enormous dose would be required in the human being to produce the malignant degeneration that is observed in the experimental mouse or rat. However, there is a rapidly increasing number of cases in which the clinical evidence points toward the fact that in cancer-susceptible individuals the administration of these carcinogenic materials in long continued fashion may incite a carcinomatous growth. About a year ago the mother of a physician came to me who was in the post-menopausal period, complaining of a spotting which had been going on for several months. On taking the history I found that 1 mgm. of stilbestrol had been taken daily for over two years. In this case the uterus was scarcely enlarged. At first I thought I would just stop the estrogen and see what would happen, but on second thought decided the safest plan would be to do a diagnostic D. and C. The histologic study revealed an adenocarcinoma, Gr. II, of the endometrium. We were forced to go ahead with x-ray therapy in this patient and a complete hysterectomy. No one can say, of course, that this lesion might have developed anyway, but there are many other cases of a similar nature. I am of the opinion that adenocarcinoma of the uterus is on the increase, and I believe the free and easy prescribing of estrogens has something to do with it.

Unfortunately we have forgotten that there are many other useful drugs which can be employed for the treatment of menopausal and post-menopausal nervous symptoms. We have also forgotten that the menopause is a physiological period of a woman's life, and that natural changes and adjustments in the nervous and endocrine systems take place and must be allowed to proceed normally. By administrating estrogens we interfere with this gradual and normal adjustment. We stimulate the epithelium of the breasts and of the endometrium when the normal restraining effect of the basement membrane and other connective tissue barriers is being reduced. It is good therapy of itself to explain to these patients the change that is taking place, and try to help them by suggestion to adjust themselves physically and nervously to these changes.

Not only are the estrogens being given at the menopause, but they are given for all sorts of nervous complaints that occur any time within ten years of the menopause on the assumption that all of such disturbances are the result of early and progressive withdrawal of ovarian activity. This too I think is most unfortunate therapy, producing a disturbance in the normal relationships of the pituitary and the ovary, subjecting various sensitive tissues such as the breasts, the endometrium and cervix to undesirable excessive stimulus, and leading patients to believe that all of their disturbances are of a menopausal basis. For myself there are few places that I have found endocrine therapy to be of really dependable value.

The *first* efficacious application of female endocrines is that of progesterone in the treatment of threatened premature labor, of threatened late abortion, and as an adjunct in the treatment of threatened early abortion. Perhaps the work that is recently being done at Jefferson by Rakoff and Vaux will ultimately justify the use of combined estrogen and progesterone therapy in habitual abortion.

Second, testoterone proprionate has been found useful in the temporary arrest of bleeding in functional menorrhagia. Its effect, however, is transient.

Third, estrogens locally are useful in the treatment of atrophic vaginitis of the post-menopausal or senile patient. They have also been found useful as an adjunct in the treatment of certain vaginal infections. Their use should certainly be avoided in young children where there is a chance of depressing the pituitary.

Fourth, estrogens are useful in severe menopausal symptoms, but here the dose should be kept down to the level that will provide moderate relief and no more. The amount of estrogen should also be progressively decreased and stopped as soon as possible, substituting other medication, and giving the patient's system a chance to readjust itself.

Aside from these several indications, the other uses of pituitary, estrogen, and progestin are problematic. There is a great deal written on this subject which is inadequately supported by experimental or clinical observation, much of which is confusing and a great deal indirectly contradictory. Even the trained endocrinologist has difficulty finding his way through the maze of contradictory data and clinical observations which have readily accumulated in the literature. Unfortunately, the whole situation has led to inadequacy of diagnosis and carelessness in therapy.

The Question of Gynecologic Surgery

Finally, when the question of gynecologic surgery arises, the combined judgment and opinion of the medical practitioner and the specialist are essential. Here it is particularly important to find the correct path between a proper conservatism on the part of the family doctor and the perhaps more radical viewpoint of the gynecologic surgeon. So often the gynecologist sees the gynecologic or surgical problem as an entity of itself. The family doctor sees the patient as a whole among her home surroundings, among the obligations of her dependent family. He is in a better position to weigh the operative procedure against the many economic, social and home factors which weigh upon the other side of the scale. Also, he sees many patients before and after operation, and he formulates a pretty good opinion as to what type of gynecologic surgery is actually going to do the patient any good, and what type may leave her just as much distress as before. He sees also the picture of her general health and has a better understanding of whether all the symptoms of which the individual complains are of pelvic origin or may be of neurologic and systematic nature. When the report comes back from the gynecologic specialist, therefore, it is the responsibility of the family practitioner to act as the court of last resort on the question of whether such operative procedure shall or shall not be done. In this connection I have set down some of the conditions which seem essential indications for surgery in this field.

The most commonly performed operation in the pelvis, the most important, and the simplest, is the diagnostic D. and C. This operation we are doing more and more often, and with greater and greater justification. As a matter of fact, it is actually a diagnostic procedure as the name indicates, rather than a therapeutic one. It is essential to the differential diagnosis of carcinoma from other, benign conditions. It can be done in a short time under simple intravenous anesthesia; the patient does not usually have to stay in the hospital more than 12 or 24 hours.

Operation for fibroid tumors should be done when the growths are increasing rapidly in size, when they are already large and tender, when they are causing pain and pressure on adjacent organs, and when the tumors show a disposition to bleed severely. Small, slowly growing tumors not associated with bleeding or other symptoms, tumors which are found simply in the course of a pelvic checkup, require no surgery. Small fibroids near the menopause associated with bleeding can be treated by x-ray or radium therapy after a diagnostic D. and C. is done. The use of radium as a treatment of fibroids in general is decreasing in popularity, and quite properly.

Pelvic inflammatory disease is now treated conservatively. In the acute phases chemotherapy is administered; in the more chronic phases, diathermy. Surgery is only employed in the case of painful sequellae.

Endometriosis of sufficient extent to cause severe symptomatology requires surgical exploration, removal of the grossly involved tissues and an effort to conserve ovarian tissue, and if possible, reproductive function. The latter is difficult to maintain. If symptoms follow conservative surgery, followup x-ray therapy may be employed.

Cancer of the reproductive tract in general calls for surgical extirpation with the exception of cancer of the cervix. Here, opinion is divided. We feel that complete surgical extirpation, or the Wertheim operation, is permissible in the instance of a Gr. I or II growth limited to the cervix. Anything beyond this certainly calls for x-ray therapy and radium.

Cancer of the vulva, cancer of the uterine body which is not spread too far, and cancer of the ovaries call for surgical treatment. And this should be prompt surgical treatment.

Fistula, either vesico-vaginal or rectovaginal, can be corrected surgically; sometimes successive operations are necessary. Here, of course, the patient is very anxious to have surgery in the light of her troublesome, annoying and disabling condition.

Prolapse of the uterus, cystocele, and rectocele can be corrected if there is sufficient supporting structure to which to attach the reconstructed parts. The Manchester-Fothergill operation is available for 1st to 2nd degree prolapse and can be employed in the childbearing period if not too much of the cervix is amputated. Abdominal or vaginal hysterectomy can be employed in other cases depending on whether there is intra-abdominal pathology, or whether there is complete prolapse and the situation can be approached successfully and easily by the vaginal route. Personally, I limit vaginal hysterectomy to cases of 2nd to 3rd degree prolapse of the uterus; and if there is intra-abdominal pathology I would prefer to approach the case by the abdominal route.

Ectopic pregnancy, ovarian cyst with twisted pedicles, etc., are of course acute surgical emergencies that must be taken care of at once.

In all of these instances mentioned the decision as to whether to operate or not of course depends then upon the extent of the lesion, its symptom-provoking character, acuteness of the condition, whether it is of immediate or remote peril. And in addition to all of these things, the general physical condition of the patient and the home circumstances, with which the medical man or the family doctor is the most familiar.

Summary

In an attempt to summarize these random remarks, I would say that the public is growing to expect a rather new and different type of medicine than we have for past generations provided. The public is growing more and more interested in preventive medicine, in early diagnosis, and the avoidance of disease when such is possible. This movement is particularly pronounced among women, and especially as regards their own peculiar medical problems.

The well educated and well informed woman today would like to find her doctor prepared to give her a complete and thorough examination from head to foot, including her pelvic organs, and prepared to establish at least a tentative or working diagnosis on the basis of this examination. Particularly when she has symptoms which she understands are suggestive of or concomitant with cancer of the reproductive tract she would like to have her condition gone over promptly and thoroughly. She would like to have all of the measures taken which will determine whether she does or does not have cancer.

It has been demonstrated that endocrines of one type or another, and particularly the estrogens, cannot be given indiscriminately and over long periods of time without causing profound disturbance in the endometrium and breasts, and perhaps stimulating neoplastic growths in a susceptible individual. Better control of this phase of our gynecologic and medical practices is indicated. Elimination of carelessness in diagnosis and in illogic therapy is sought.

Finally, the family physician should be cognizant of the result that can be expected from gynecologic surgical procedures. He should be in a position to act as arbiter between the patient and the gynecologist, and be final judge as to whether operation should or should not be performed. In this, of course, he assumes grave responsibility, but he is in a much better position to make this decision, being familiar with the patient's past medical history, her family relationships, her home obligations, etc., than is anyone else.

Let us hope, therefore, in the future that the proper and normal relationship between the family doctor and the gynecologist can be reestablished on the basis that the latter act simply as a consultant, advisor, and occasionally as a technician in the correction of conditions which require surgical relief.

Discussion

Dr. S. W. Rennie (Wilmington): Dr. Montgomery, it is a very gratifying thing to come to a meeting of this sort and have a paper where the members of the Society can go back home and find that they have gotten a number of very meaty subjects that they can use in their own practice, whether they are general practitioners or specialists. We feel your paper has been charmingly presented and it is just filled with that type of knowledge that we would like to use in Wilmington.

The cooperation of the specialist with the general practitioner is very, very important, and the way you presented it, I think it is.

We all have the attitude that these patients should be taken care of by the general practitioner under certain conditions. There is one thing you did not mention, however; that is, the patient who comes in with a vaginal discharge. Some evening after office hours I feel that trichomonas in Wilmington was the means of making our bread and butter because it seems that all patients with trichomonas on that day have come in to see us. This particular technique can be handled by general practitioners. The diagnosis is very simple. However, there are a few tricks to that sometimes routine diagnosis.

The only way we make a diagnosis is to drop saline solution into the vagina with the applicator, then rub the saline solution on the slide and look at the slide. However, it has been called to my attention there are certain practitioners who, in order to keep the saline solution over a period of years, put in two or three drops of phenol and, of course, it kills the trichomonas under a microscope.

Another important thing that has to do with gynecology is the examination of the infant. That, I think, sometimes does require a specialist and also a good nurse to hold these infants and prevent them being so frightened. There are simple procedures, such as the gloved finger in the rectum and the small probe in the vagina. Feeling the probe with the rectal finger sometimes gives you an idea of what the vaginal tract seems to be like or contain, such as a foreign body.

In the examination of a patient who is quite sick, for instance, the elderly woman, we do make a diagnosis that sometimes might prevent an operation from which the old lady might never recover. The procedure again is one that can be done in the hospital and the patient go home in twenty-four hours. If a carcinoma with metastasis is seen, the patient is not subjected to a laparotomy with subsequent long hospitalization.

With reference to inflammatory disease, as Dr. Montgomery pointed out, it is treated conservatively nowadays and it is very gratifying to find that in future years one of the patients who withheld surgery and was treated medically gets married and has a child, whereas if something had been done you know very well both tubes would have been removed.

With reference to the diagnostic D and C's, sometimes we put it off a little too long especially in the cases where we do endometrial biopsies in the office. I have one patient that I did an endometrial biopsy on three different occasions and got practically no tissue but just what the pathologists said was blood. Later I did a diagnostic D and C in the hospital and she had a fundal carcinoma. Endometrial biopsy can give you a definite answer. However, that answer is that this patient does not have a carcinoma. I do not think we should let it ride if the bleeding continues: she should have a diagnostic D and C.

Dr. Montgomery: I thank you for discussing this paper so kindly. I agree with most of the statements that have been made. What we have to do in our medical institutions in the future is to spend more time upon the question of diagnosis and office treatment in gynecology particularly because these are going to be the principal interests of the general practitioner, for the time is not too far ahead when most operative obstetrics as well as most gynecological surgery in the hospital will be done by men who have had postgraduate training. Medical gynecology is becoming an ever more important part of the doctor's work. I think those who practice gynecology will support this statement, that of the patients we see in the office nine out of ten are problems which can be handled medically and only one out of ten presents a surgical problem.

As regards endometrial biopsy collected in the office and the Papanicolaous staining of cells in vaginal secretion, these are diagnostic measures which are beginning to find favor in many quarters. Both of these are valuable when they are positive. If the findings are negative and symptoms are still present, then one must resort to that final criterion of gynecologic diagnosis—the diagnostic D. and C. This is probably the most important operation in gynecology.

I thank the Society for the very kind invitation to be here, and I have enjoyed the morning very much.

THEORETICAL AND PRACTICAL ASPECTS OF THE PROBLEMS OF HUMAN STERILITY

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Sterility and infertility are frequent phenomena of modern society. In the years 1910 to 1930 of 8,524,148 marriages 1,704,830 or 17 per cent remained childless[1]. The number of couples with one-child sterility was equally high. The sterility problem is of wide interest: the state and the people are concerned with the question of depopulation; to many families, childlessness is the central problem of life.

Voluntary childlessness is usually due to effective contraception. Involuntary barrenness may be due to infertility, to reduced fertility, or to absolute sterility. Infertility is a term used for couples who are not sterile but who cannot produce viable offspring: this may be due to persistent miscarriage, abortion, prematurity or stillbirth. Some of these phenomena are still obscure; some can be explained by serologic incompatibility. Reduced fertility, often called "relative sterility," is due to a combination of fertility-reducing factors of either the male, the female, or both. A combination of from two to five such factors is common[2]. Absolute sterility occurs if the fertility-impairing factors are irreparable: it is defined as the male's inability to fertilize and the female's inability to conceive. A marriage is considered barren if it remains childless after two years of unrestricted mating.

The problem of sterility has to be analyzed from three points of view: causes, diagnosis, and treatment. There is such close interdependence of the three aspects that discussion of one without the others is hardly possible. Both sexes share equally the responsibility for childlessness and deserve, therefore, equal medical attention.

Possible Causes of Infertility[3]

Female	**Male**
1. Ovarian	1. Testicular
a. Congenital anomalies: aplasia, hypoplasia—bilateral	a. Congenital anomalies: aplasia, hypoplasia, total or partial cryptorchidism—bilateral
b. Intrinsic factors: hypoestrogenism, atrophy	b. Intrinsic factors: impaired spermatogenesis, atrophy
c. Secondary failure: other endocrinopathy: pituitary gigantism, dwarfism; acromegaly, adiposogenital dystrophy, Cushing's syndrome, Simond's cachexia; hyper- or hypothyroidism, cretenism, myxedema, toxic goiter; Addison's disease, medullary adrenal tumor, cortical hypo- or hyperplasia, tumor	c. Secondary failure: other endocrinopathy: pituitary gigantism, dwarfism; acromegaly, adiposogenital dystrophy, Cushing's syndrome, Simond's cachexia; hyper- or hypothyroidism, cretenism, myxedema, toxic goiter; Addison's disease, medullary adrenal tumor, cortical hypo- or hyperplasia, tumor
d. Circulatory disturbances: pelvic congestion, due to uterine displacement, torsion of pedicle, infarction, adnexitis, postoperative adhesions, abnormal peritoneal folds	d. Circulatory disturbances: pelvic congestion, varicosity, varicocele, torsion of spermatic cord, infarction, postoperative adhesions
e. Mechanical interference with ovulation: endometriosis, microcystic change, retention cysts due to failure of graafian follicle to rupture, persistant corpus luteum, oophoritis-primary, secondary, gonorrhoic, tuberculous, sclerotization, dermoid, various tumors, pressure from tunica albuginea thickening, prolaps of ovaries	e. Mechanical interference with spermatogenesis: orchitis — primary, secondary due to parotitis; gonorrhea, tuberculosis, tertiary syphilis, fibrosis, sclerotization, dermoid, cysts, various tumors, pressure from hydrocoele, periorchitis
f. Constitutional factors: metabolic, obesity, nutritional, lack of proteins, minerals, hypovitaminoses, chronic intoxications, lead, arsenic, zinc, aniline dyes, alcoholism, abuse of nicotine, morphinism, cocaine, quinine; focal infections; debilitating diseases, esp. tuberculosis, malaria, small pox, typhoid fever, diabetes; certain types of insanity, epilepsy, mental deficiency.	f. Constitutional factors: metabolic, obesity, nutritional, lack of proteins, minerals, hypovitaminoses, chronic intoxications, lead, arsenic, zinc, aniline dyes, alcoholism, abuse of nicotine, morphinism, cocaine, quinine; focal infections; debilitating diseases, esp. tuberculosis, malaria, small pox, typhoid fever, diabetes; certain types of insanity, epilepsy, mental deficiency.
g. Castration: radium, alpha radiation, x-ray, surgical, traumatic - bilateral	g. Castration: radium, alpha radiation, x-ray, surgical, traumatic - bilateral
h. Physiologic factors: immaturity, senility	h. Physiologic factors: immaturity

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i. Temporary: constitutional factors —"f", change of climate	i. Temporary: constitutional factors —"f", change of climate; overwork; physical, mental strain; acute hyperpyrexia incl. occupational exposure, artificial fever; sexual exhaustion
2. TUBAL	2. DUCTULAR
a. Congenital anomalies: aplasia, hypoplasia, obstruction	a. Congenital anomalies: aplasia, hypoplasia, obstruction
b. Circulatory disturbances: tubal spasm, isthospasm	b. Circulatory disturbances: spasm of vas deferens
c. Mechanical interference: distortion by ovarian, parovarian cysts, tumors, angulation, kinking, adhesions about ovary, tubal fimbria, peritoneal folds, displacement	c. Mechanical interference: pressure, torsion, adhesions, kinking, angulation
d. Altered physiology: inadequate peristalsis, abnormal current of cilia, wandering of ovum to opposite side	d. Altered physiology: excessive spermatophagia in the ampulla
e. Inflammatory occlusions: inspissated mucous plug, catarrhal adhesions, puerperal or non-puerperal infections, gonorrhea, tuberculosis, syphilis, strictures, stenosis, perisalpingitis, peritonitis, appendicitis, hydropyosalpinx	e. Inflammatory occlusions: strictures at lower pole of epididymis, of ejaculatory ducts, of vas deferens, of urethra, tuberculosis — if complete occlusion; aspermia
f. Surgical interference: removal, ligation	f. Surgical interference: removal, ligation
3. UTERINE	3. GLANDULAR
a. Congenital anomalies: aplasia, hypoplasia, atypia, bicornate, biseptate uterus, atresia or stenosis of internal orifice	a. Congenital anomalies: aplasia, hypoplasia of prostate, seminal vesicles
b. Mechanical interference: fibromyoma, carcinoma, adenomyosis, lateral displacement, ante-, retroflexion	b. Mechanical interference: hypertrophy, adenoma, carcinoma of prostate, concrements of prostate
c. Inflammatory changes: endometritis, scars after induced abortion	c. Inflammatory changes: prostatitis, abscess, vesiculitis
d. Constitutional factors: glycopenic uterus[4]	d. Constitutional factors: glycolysis inhibitors[5]
e. Surgical removal: hysterectomy	e. Surgical removal: vesiculoectomy
f. Physiologic factors: pregnancy	f. Physiologic factors; abnormal: serologic incompatibility
4. CERVICAL	4. SECRETORY
A. Failure of reception of spermatozoa	A. Abnormal seminal fluid
a. acute ante-, retro-displacement, absence, atresia, stenosis of external os	a. lack of mucolytic ferments in semen
b. elongation, incomplete differentiation	b. vitality deficiency of spermatozoa due to abnormal prostato-vesicular secretions: asthenospermia
c. intercurrent cervical hypertrophy, polyps, carcinoma	c. volume deficiency of semen due to lack of secretions: oligospermia
B. Hostility to spermatozoa	B. Abnormal spermatozoa
a. too viscis endocervical secretion, inspissation of plug, endocervicitis, scanty coital secretions, chronic pelvic congestion due to incomplete coition or constipation	a. numeric deficiency: oligozoospermia; generalized inferiority; asthenozoospermia; absence of mature spermatozoa: azoospermia
b. chemical hostility: low pH due to infection, poor drainage, spermatotoxins?, douches, spermicidal jellies, suppositoria	b. motility deficiency: numeric, per cent of active spermatozoa subnormal; lower degree, sluggishly motile: hypokinesis, abnormal motion, rotation: dyskinesis
c. incomplete cyclic preparation for insemination: due to ovarian failure[6]	c. morphologic atypia: teratozoospermia; immaturity of sperm population: shift to the left in spermiogram
5. COITAL — impottentia colundi	5. COITAL — impottentia colundi
A. Mechanical interference — incomplete or impossible introduction	A. Mechanical interference — incomplete or impossible intromission
a. extreme obesity of abdomen, ankylosis of hips, spinal deformities	a. extreme obesity of abdomen, ankylosis of hips
b. cysts of vulva, of Bartholin glands, of vagina, chronic hypertrophic vulvitis, elephanthiasis, granuloma venereum, tumors	b. hydrocoele, spermatocoele, varicocoele, tumors, elephanthiasis of scrotum

c. extravaginal tumors, extruded myoma, cysts, prolaps, large vulva, cervical hypertrophy	c. injured penis, fissures, ulcers, tumors; injury to corpora cavernosa, bulbo-cavernous, ischiocavernous muscles
d. absent, infantile vagina, vaginal septi, annular constrictions, unperforated, thick, rigid hymen, congenital, acquired atresia, stenosis	d. penis absent, too small, too large
B. Painful coital entry	B. Impotency — impotentia generandi
a. vulvar lesions, bartholinitis	a. endocrine due to castration, ennuchoidism, testicular failure
b. incomplete rupture of hymen, tender hymenal tags	b. secondary due to other endocrinopathy
c. vaginal lesions, vaginitis, atrophy, scars	c. local causes: congestion, infection, hypertrophy, ulcer, polyp
d. vaginal proximity of urethra	d. constitutional causes: chronic intoxication by drugs, chemicals, debilitating diseases, diabetes
e. urethral caruncles, urethritis, infected Skene's ducts	e. sexual exhaustion: excessive coitions, masturbation, nocturnal emissions
f. low public arch, narrow angle, heavy symphysis, fissure-inano	f. neurogenic: central nervous system injuries, tumors, infections, tabes, multiple sclerosis, syringomyelia, traumatism to spine, nerves
g. vaginismus, spasm, psychogenic, reflectoric contraction of levator	g. psychogenic causes: distraction, fear, other emotions
C. Painful coital penetration	C. Faulty insemination
a. pelvic congestion	a. penis too long or too short, amputated
b. adnexitis	b. premature ejaculation
c. endometritis	c. hypospadia, epispadia, deformities
d. prolapsed ovaries	d. small urethral strictures
e. poor technic, dysparunia	e. poor technic, dysparunia

The major causes of impaired fertility of the female are tubal blockage, cervical abnormalities, or anovulatory ovarian deficiency. In the male, testicular failure plays the most prominent role. In both sexes, lowered fecundity is frequently due to hypothyroidism. Insemination errors play a certain role while other factors are in the background[7, 8].

These facts influence the choice of minimum diagnostic procedures[9, 10]: these consist of a complete history, a physical and laboratory examination of the couple, of semen studies, evaluation of tubal and cervical factors, and of the determination of the ovulation date.

Some of the steps of the fertility assay require further comments: It must be stressed that man and wife must be interviewed first separately and then jointly. The routine laboratory procedures are the same for both partners except for semen studies; the special procedures differ. Many special methods are available; their choice will depend upon the history, the clinical findings and the results of the basic diagnostic tests. The physical examination must be thorough, the endocrine and genital survey expert and complete.

SCIENTIFIC STERILITY ASSAY

(Essential methods indicated by an asterisk.)

Female and Male

1. HISTORY

a. Family history

grandparents
parents: dead or alive, age, diseases
siblings: number, ages, fecundity
diseases frequent in family
mental and hereditary diseases

b. Personal history

race, nationality, birthplace, date
residences, past, present
early childhood, development, diseases, esp. mumps
schools, education
adolescence
occupations, past, present
generalized infections
chronic diseases
venereal diseases, treatment
surgical operations, esp. herniae
traumatism, hospitalizations
vaccinations

c. Sexual history

—many questions to be repeated as to premarital, marital, extramarital phases—
first sexual desire
masturbation: first, frequency, duration, types, recent changes, pain, breast signs
heterosexual attraction, contact, relation
homosexual attraction, contact, relation
coition: first, frequency, hours, types, abnormalities, pain
orgasm, euparunia, dysparunia
contraceptives, duration, types
other sexual activities
promiscuity, duration, frequency
previous marriage, date, duration, children
widowed, divorced, separated; reasons

present marriage, date, duration, age at marriage, harmony
duration of infertility, previous treatment
female: number of previous pregnancies, results, dates
male: number of presumed paternity before marriage, out of wedlock

d. Constitutional history

physical type, shape and size of head
posture, features
height, upper half, lower half; span
weight, recent changes
eating and drinking habits, regularity, diet
alcohol, nicotin, drugs
personal hygiene, hot baths
sexual hygiene; female: douches; male: suspensories
attitude; religion, religious scruples
temper, disposition, recent changes
relaxation, music, dancing, reading, theatre, movies; selections
vacation, hobbies, physical exercise, sports, types

2. PHYSICAL EXAMINATION

nervous system, reflexes, eyes, ears
oral cavity, foci of infections, teeths, tonsils
respiratory organs, rate and type of respiration, dyspnoe
circulatory organs, pulse rate and type, palpitations, blood pressure
gastrointestinal tract, digestion, defecation, frequency, types
urinary organs, frequency of urination, amount
muscles, bones
extremities, varicosities

endocrine examination:
headaches, frequency, types, localization
vertigo, nausea, vomiting
eyes, exophthalmus, ptosis, strabismus, nystagmus, vision, signs
pupils, reflexes, miosis, mydriasis, signs
tremor, type, fingers, tongue, eyelids
sleep, dreams, frequency, character
fatiguability
skin, texture, marks, pigmentation, dermographism
perspiration, flushing, sensitiveness to cold, heat
distribution of fat
teeths, types
nails, types
secondary sex characteristics: breasts, quality, nipples
hair, beard, pubic, axillary hair, type, texture, distribution
stigmata

3. Gynecologic Examination	3. Urogenital Examination
vaginal, rectal	inspection, rectal
vulva, Bartholin glands	penis, foreskin, urethra
vagina	seminal vesicles
cervix	vas deferens
uterus	prostate
Fallopian tubes	ejaculatory ducts
ovaries	epididymi
adnexa	testicles

4. General Laboratory Work

erythrocyte and leukocyte count, hemoglobin, hemogram
erythrocyte sedimentation rate
urine analysis
seroreaction for syphilis
basal metabolism rate
other tests and examinations as indicated: Schiller's test[11], smears and cultures from urethra, cervix, prostate, vesicles, seroreaction for gonorrhea, Rh-typing, specific-dynamic action of proteins, x-ray of skull, of spine, glucose or creatinine tolerance curve, blood cholesterol, glucose, calcium, phosphorus, chlorides, etc.

5. Studies of Ovarian Function —ovulation timing	5. Studies of Testicular Function —spermatogenesis
a. History of irregular bleeding, intermenstrual bleeding, painful ovarian examination	a. History, diagnosed hypogonadism
b. Endometrial suction curettage*: within 4-12 hours after onset of menstrual flow; second within 1-4 days of next flow or 25-28th day of a 29-30 day cycle. Contraindications: pelvic inflammation, pregnancy. Results: ovulomenorrhea early or late secretory phase; anovulomenorrhea -early or late proliferative phase; atrophy; cystic glandular hyperplasia	b. Semen studies[18, 19]: after 5 days sexual abstinence sample obtained by masturbation or interrupted coition into clean, dry glass, kept at 21°C, examined within 30 minutes. Normals: minimum volume 2 cc, liquefies within 20 minutes, average 60-200 spermatozoa per cc, minimum 300 per sample, 80% normally motile; not over 20% abnormal forms. If subnormal, repeat. Hyaluronidase assay.
c. Basal body temperature*[12]: mornings orally for 3 minutes daily for 3 cycles. Normals: mid-term drop to 96.8-97.4 F, premenstrual rise to 98 F for 10-14 days, drop with onset of next flow; irregular in anovulomenorrhea; permanent rise in pregnancy	c. Testicular biopsy[20]: under local anesthesia. Results: normal; aplasia; hypoplasia; maturation arrest; atrophy; interstitial cell hyperplasia; fibrosis; sclerotization; combinations
d. 17 - ketosteroids[13]: estimated in two 12 hour night samples of urine. Normal: 5-14 mg a day. Increased in adrenal virilism, adrenal tumors, arrhenoblastoma of ovary.	d. 17-ketosteroids: estimated in 2 12 hour night samples of urine. Normal: 8-20 mg a day. Abnormal in hypogonadism, adrenal dysfunction.
e. Hormonal levels: 1—Follicle stimulating hormone[14, 15]. Normal: 45 mice units per liter blood at ovulation; 25 mice units daily in urine shortly preceding ovulation. 2—Estrogen[14, 15]: Normal: 0.1 to 50 mg per 100 ml. blood; increase in 2nd half of cycle; 0.42 mg daily in urine.	e. Hormonal levels: 1—Follicle stimulating hormone[14, 15]. Normal: 100 or more mice units daily in urine.

3—Pregnandiol[16]: on 20-25th day of cycle. Normal: present in urine 48 hours after onset of ovulation until 1-3 days before onset of menses; daily average 5 mg.	
f. Vaginal smears[17]: daily for 2 full cycles. Normal: ovulation indicated by cornification of vaginal epithelium cells.	
g. Other tests: vaginal biopsy not practical. Spectrographic, cycloscopic methods unreliable.	
6. Studies of Tubal Patency	6. Studies of Ductular Patency
a. Tubal persufflation, kymoinsufflation[21]: Rubin test on 2-4th postmenstrual day with CO_2. Contraindications: inflammations, pregnancy. Normal: pressure rises from 60 mm to 100 mm Hg within 15 seconds.	a. Testicular puncture[23]: in local anesthesia. Normal: spermatozoa present
b. Fluoroscopy[22]: on 7th day after cessation of menses. Contraindications: inflammations, pregnancy, imminent menstruation.	b. Vasopuncture[24] and radiography: in local anesthesia.
c. Hysterosalpingography[22]: roentgenogram made 2 and 6 minutes after injection of contrast medium. To determine site of obstruction. Third film 24 hours later. To detect medium in peritoneal cavity. Repetitions as indicated.	c. Urethroscopic catheterization[24]: followed by vasopuncture and radiography. To determine site of obstruction. Indicated in aspermia.
7. Studies of Uterine and Cervical Factors	7. Other Pertinent Tests
a. Finding of submucous fibroid, uterine polyp, congenital defects, hypoplasia.	a. Compatibility test[26]: Only if semen normal. Normal: spermatozoa penetrate cervical mucus on microscopic examination.
b. Uterosalpinography: as above	
c. Post-coital study of seminal reception*[25]: Huhner test just before midinterval of cycle after 3 days sexual abstinence, 2 hours after coitus. Normal: 5-50 mostly motile spermatozoa per h.p.f. of microscope.	
d. pH of cervical secretion. Normal: 8.5 in intermenstruum. pH of vaginal secretion. Normal: 4.5 in intermenstruum.	

The treatment of impaired fertility is governed by the couple's history, and the clinical and laboratory findings. Of all childless couples 50 per cent are absolutely sterile. In the others, the success of the treatment depends upon proper diagnosis and evaluation of the fertility-impairing factors and upon expert medication. If the man is absolutely sterile, artificial insemination has to be considered. If the woman is absolutely sterile, adoption of a child may solve the couple's problem.

TREATMENT OF STERILITY

General Treatment

1. Sex education on problems of life, passions, desires, parunia, orgasm, infertility, sterility.
2. Education as to role of diet, proteins, vitamins, malnutrition, obesity, alcohol, tobacco, drugs.
3. Change in sex hygiene, omission of hot baths, douches before and after coition, change of man's occupation, importance of rest, sport, vacation.
4. Psychotherapy where psychosomatic factors apparent, of vaginism, of premature ejaculation, of impotency.
5. Treatment of generalized diseases, such as diabetes, syphilis, malaria, rheumatism, etc., of focal infections and diseases remote from the sex organs, such as pulmonary tuberculosis, spondylitis, etc.
6. Treatment of hypothyroidism by daily oral desiccated gland; e. g. increasing doses from 1 grain up until patient develops a reaction, then 2/3 of the maximum dose. Under monthly control of the basal metabolism rate.
7. Conservative or surgical treatment of malformations, of inflammatory changes such as cauterization, conization or coagulation of the cervix, repair of herniae, prolapses, parametrial fixation, removal of polyps, cysts, treatment of specific processes and their sequelae, treatment of tumors, adhesions, etc.

Specific Treatment

Female[27]	Male[28]
1. Ovarian Failure	1. Testicular Failure
a. Gonadotropic therapy: for selected patients only after detailed hormone assays	a. Gonadotropic therapy: for selected patients only
b. Steroid cyclic therapy: for selected patients after detailed hormone assays	b. Androgen therapy: value disputed
c. Thyroid therapy; combined or alternating with gonadotropins: for selected patients only	c. Thyroid therapy; combined or alternating with gonadotropins: for selected patients only

d. Irradiation of pituitary and of ovaries; surgical therapy of ovaries: for selected patients	d. Vitamin E: value disputed
2. TUBAL	2. DUCTULAR
a. Repeated tubal insufflation	a. Urethroscopic catheterization, dilatation
b. Hysterosalpingography	b. Epididymo - vasostomy: if result of testicular biopsy satisfactory
c. Salpingolysis, salpingostomy, tubal implantation	
3. COITAL	3. COITAL
timing of coitus at ovulation, change of position in malposition of genitalia, sex play	spacing of coitions, pause before intercourse at ovulation, change of hour of coitus after rest, sex play
4. ARTIFICIAL INSEMINATION	4. ARTIFICIAL INSEMINATION
with husband's or another man's semen -man must be of same blood group and Rh compatible, and Huhner test must be positive—at ovulation; indicated by failure of cervical reception, in compatibility of cervical mucus with husband's semen, after previous complications due to Rh incompatibility	with own semen in irreparable hypo- or epispadia; with other man's semen in husband's irreparable semen deficiency or aspermia

The problem of sterility is complex. At present, only a handful of physicians—geneticists—devote all their time to fertility problems. Their number will grow: some day the study and treatment of infertility will develop into a special branch of medicine. The general practitioner usually cannot handle the problem adequately; the childless couple should seek the aid of a gynecologist. Many gynecologists, however, are not yet prepared to perform all the laboratory studies necessary for proper rating of the fertility-reducing factors in both sexes. The clinical and laboratory examination of the male partner are frequently neglected. The urologist, if consulted, is confronted with an analogous situation. Few clinical pathologists have sufficient experience to evaluate the tests employed in sterility assays.

Close collaboration between a gynecologist, urologist, and pathologist is needed. All three specialists must be interested in sterility and familiar with all approved technics. Some social workers, nurses and laboratory technicians should specialize in this field to assist the physicians. Popularization of the problem will create demand for fertility clinics throughout the nation. Financial support will be available: the government is aware of the importance of such clinics for the population problem; childless families are "willing to spend the last penny" in the effort to have a child; and disappointed sterile couples are eager to assist in research which would save others from disillusion.

The problem of infertility is in steady evolution. Every day brings a new development; every answer creates new questions. The few men interested in this field disagree as to details and often even as to general principles of the etiology, diagnosis, and therapy of infertility.

Organized planned investigation on a broad scale is important for progress. Theoretical work is needed: however, its value is limited, as observations on animals are not necessarily valid for human beings in the field of progeneration. Research should be carried on in close cooperation with active fertility clinics.

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CANCER CONTROL: THE DETECTION CENTER

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During the past few years public interest in the control of cancer has been aroused by lay and medical publications. The Federal Government and the legislatures of many states, including Delaware, have appropriated funds to be used for cancer control. The American Cancer Society has also raised large sums for the same purpose. As the result of nationwide publicity, and the knowledge that government and private funds are available, there is an increasing public demand for action of some sort. The medical profession must do its best to meet this demand, to direct the efforts at cancer control, and to cooperate with the various public and private agencies involved, or face the prospect of government invasion of this field of medicine. It is apparent that if the medical profession fails to improve existing conditions, governmental agencies will be willing and eager to enter this field of medical practice. It is also apparent that the Congress and state legislatures will establish such agencies if the demand for them is strong enough.

Cancer control can be improved in three ways: first, by the discovery of new methods of preventing or treating cancer; second, by more effective use of the methods now available; third, by the earlier diagnosis of cancer. With the first way we are not concerned here: millions of dollars are now being spent on a coordinated research program. The second way applies particularly to the training and experience of surgeons and others who are called upon to treat cancer. For many years the group consultation service of physicians trained in the various specialties has been the basis of the cancer clinics approved by the American College of Surgeons, and the number of such clinics is steadily increasing. The third way of improving cancer control is still of first importance: the early diagnosis of the cancer while it is still localized and curable. Cancer Diagnostic Clinics and Cancer Detection Centers are being organized to provide earlier diagnosis.

The distinction between the Detection Center and the Diagnostic Clinic is not always understood. The *Diagnostic Clinic* is primarily for the exhaustive diagnostic study of *patients* suspected of having cancer. Commonly, patients are referred by physicians for special study, such as x-ray examination, biopsy, endoscopy, etc.

On the other hand, the *Detection Center* offers a careful history, physical examination and selected laboratory tests to presumably *well* persons, not *patients. Patients* with symptoms of cancer should not be accepted, but should be referred to their physicians. Special diagnostic procedures may be recommended, but are not performed at the Center. Such a Detection Center performs much the same function as do life insurance companies which offer annual examinations to policyholders.

It is evident that the Detection Center offers the examinee something his physician can also give him. What then is the advantage of establishing or continuing such a center? The answer must take into account not only ideal medical care but also certain practical considerations: patient's psychology and physician's failures. Whether as doctors we like it or not, some of our patients prefer to go elsewhere with certain problems. The woman who has been delivered by her doctor will naturally consult him for gynecologic complaints, but the woman who knows him chiefly as a social acquaintance may prefer someone else to examine her breast. The man who fears cancer may also fear the ridicule of his old friend and fishing partner, and be dissatisfied with a cursory examination. Furthermore, the physician may also be handicapped by long friendship: he does not want to think that dear old Mrs. Jane Doe has uterine cancer any more than she wants to be examined by the boy who broke her windows and stole her pies. So when she finally tells him her "changes came back on her," he advises her to "come to the office if it keeps up too long"; and she may decide that six months is not too long.

At times the request of a patient for thorough examination to rule out cancer may be embarrassing or inconvenient. The doctor may not have all the facilities necessary or he may not have the time available. Such examinations (including a careful history) are seldom possible during office hours. A special appointment is necessary for adequate study of the patient, and the fee should be larger than that for the usual office visit. Both the appointment and the fee may counter to local convention. Finally, we must admit that lack of practice may make laryngeal, rectal or vaginal examinations valueless if the doctor has little occasion to make them frequently.

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* Director, Carpenter Memorial Clinic, Memorial Hospital.

Cancer Detection Centers

For various reasons the Cancer Detection Centers have seemed to fill a definite need. The public has supported them enthusiastically. At present there are 124 such centers in this country. The medical profession has given them approval through national organizations such as the American College of Surgeons. In communities where such Centers are in operation, the practicing physicians have benefited by having examinees referred back to them for treatment of unsuspected conditions discovered on general examination. The following statistics are reported by Ochsner from Tulane: Cancer found, 2% of examinees; "precancerous" conditions for which treatment was recommended, 15%; other conditions for which care was advised, 30%.

The chief criticism of the Detection Center is its failure to include more than a fraction of the potential examinees. The expense of examining hundreds of applicants to find a few cases of cancer has been another criticism. The cancer incidence may be from 0.5% to 2% of examinees, the cost from $1800 to $7000 per case of cancer found. The objection is also raised that the center takes cancer detection from the physician's office, where the great bulk of patients must be seen, and tends to create yet another specialty. A minor criticism is that the Detection Center devotes much of its attention to other conditions than cancer and should rather be termed a Health Center.

With these considerations in mind we propose the following modified plan for the organization of the Cancer Detection Clinic in Delaware, using as a basic outline the minimum standard of the American College of Surgeons (Bulletin, June, 1947) which specifies County Medical Society approval and guidance as a prerequisite, equipment, patient records, disposition of examinees, and fees.

(1) Centers should be located in hospitals if possible.

(2) More than one center should be established.

(3) Appointments for examination should be made through a separate appointment center. When making appointments the applicant should be questioned about complaints; if definite symptoms are present he should be referred at once to his doctor, thus keeping the center for *well* persons.

(4) The examination should be primarily for cancer detection if public or private funds appropriated for that purpose are to be used to support the center. Hence we recommend screening type of examination, rather than the exhaustive study sometimes employed. This includes: (a) history, particularly gastrointestinal, urologic, and gynecologic; (b) examination of oral cavity, lymph nodes, abdomen and rectum in all patients; larynx, genitalia and prostate in men; breasts and pelvic organs in women; (c) laboratory procedures only as indicated, except perhaps 70 mm. x-rays and vaginal smears for cytology (Papanicolaou technique).

(5) The staff of the Center should be practicing physicians, who should receive adequate compensation for their services. We do not recommend the use of hospital interne or resident staffs, except for teaching purposes, and we do not recommend that the physicians serving on the staff receive only a nominal fee. We recommend that the total compensation of a staff physician be limited and that when that limit is reached he be replaced, or serve on a voluntary basis. We do not recommend the use of exclusive specialists in the detection Center. We recommend that each center have an experienced senior staff member to act as advisor in doubtful cases.

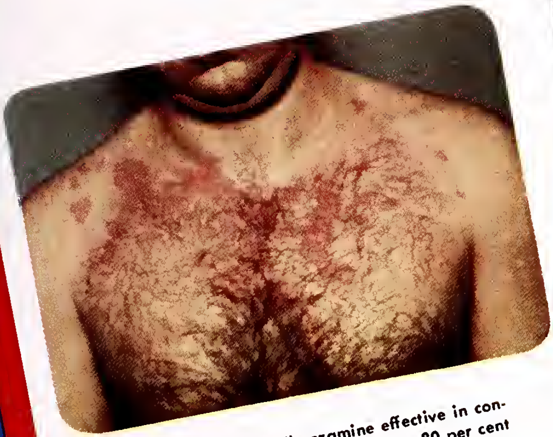
These suggestions have been carefully considered. Service on the staff of the Center should be sufficiently lucrative to attract physicians' services, rather than be granted grudgingly. Experience gained in searching for cancer should be beneficial to each staff physician in his own practice. The diagnosis of cancer is seldom difficult, provided one is alert to the possibility, and service on the staff of a detection center should make the doctor

(Concluded on Page 166)

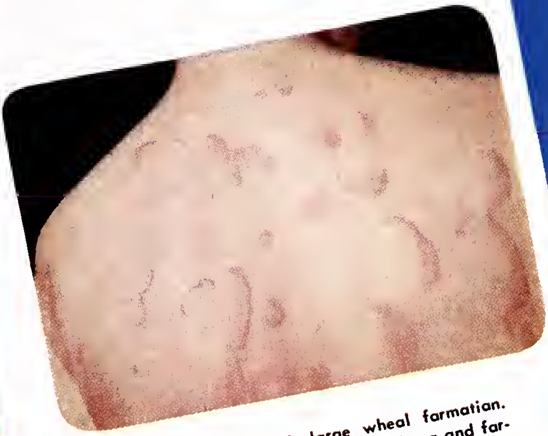
RELIEF OF ALLERGY

PYRIBENZAMINE

WHENEVER ANTIHISTAMINICS ARE INDICATED



Acute Urticaria. Pyribenzamine effective in control of itching; gives relief to about 80 per cent of all patients having acute urticaria.



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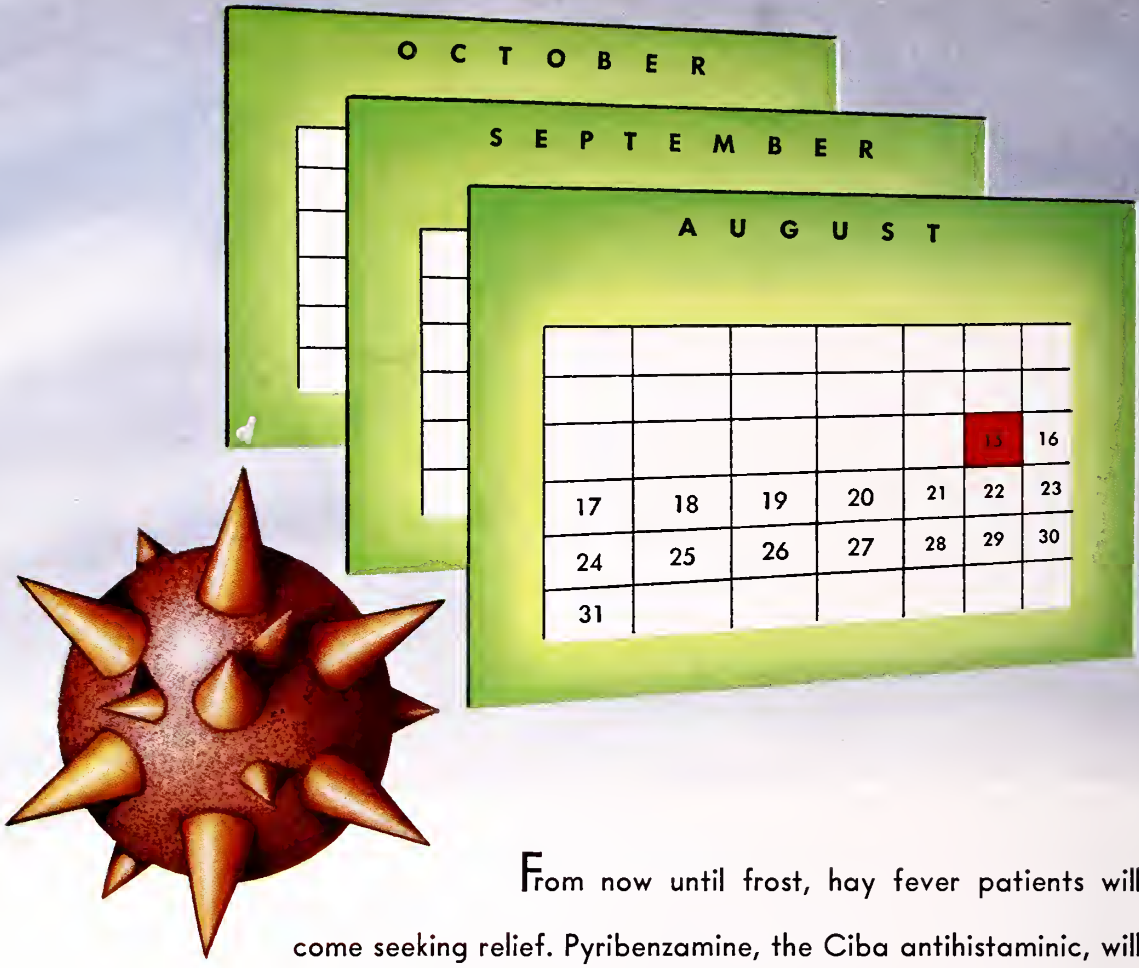

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DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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Vol. 19 August, 1947 No. 8

The Pure Investigator

We quote from a book that deserves to be more widely known than it is. "It seemed to Philip that the people who spent their time in helping the poorer classes erred because they sought to remedy things which would harass them if they themselves had to endure them, without thinking that they did not in the least disturb those who were used to them. The poor did not want large airy rooms; they suffered from cold, for their food was not nourishing and their circulation bad; space gave them a feeling of chillness, and they wanted to burn as little coal as need be; there was no hardship for several to sleep in one room, they preferred it; they were never alone for a moment, from the time they were born to the time they died, and loneliness oppressed them; they enjoyed the promiscuity in which they dwelt, and the constant noise in which they dwelt pressed upon their ears unnoticed. They did not feel the need of taking a bath constantly, and Philip often heard them speak with indignation of the necessity to do so with which they were faced on entering the hospital; it was both an affront and a discomfort. They wanted chiefly to be let alone..."[1]

For many years we have wished that those lines might be read daily to everyone entering upon a life of Social Service. What a preventive of busybodyism and moral snobbery they might be! They were written out of Mr. Maugham's experience as a medical student doing outpatient obstetric work. They recalled an experience of ours under similar circumstances when we visited blistering invective upon a woman who, oneday postpartum, was up cooking dinner for her family.

"Young man, when you've had as many babies as I have I'll listen to you telling me what to do."

Early convalescence was not fashionable in those days.

Salvation can never be inflicted on the poor by prying uplifters. The desire for it must come from within and the roots of the desire possibly may be stimulated and nurtured by education.

Thinking along those same lines—that a wide acquaintance with humanity in all its phases was an essential part of a doctor's training—our eye tripped over the following sentence, which occurs in an article on racial tensions in the city of Detroit and the measures being taken to combat them. "They include . . . volunteer investigators and reporters upon social conditions . . . teachers, social workers, ministers, students, bartenders, union leaders, shop foremen, and merchants, representing different geographic areas, racial, and religious groups."[2]

Why does not the group include doctors? The doctor should be the ideal investigator. He can go anywhere and be welcomed anywhere because, wherever he goes, he is minding his own business. He is not easily shocked by what he sees, because no matter what he encounters he often has seen worse elsewhere. He invades his territory because he is invited into it to relieve pre-existing suffering, not because he wants to poke his nose into a nasty situation so that he can write a thesis for his Ph. D. on the disgusting conditions he uproots. He is not swayed by preconceived theories as to what social conditions ought to be. He is summoned to face a fact and to do the best he can about it.

We wish Detroit every success in its effort to ward off trouble, but we think the city might get further if it included in its investigative staff a few hard-headed, unsentimental, practical doctors, who only encountered the unpleasant facts they found because they were invited to see them while minding their own business.—Editorial, *N. Y. S. J. M.*, August 1, 1947.

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[1] Maugham, W. Somerset: Of Human Bondage, New York, George H. Doran Company, 1915, pp. 598-99.

[2] New York Times, Magazine Section, April 20, 1947, p. 17.

CANCER CONTROL: THE DETECTION CENTER

(Continued from Page 164)

alert. The limitation on the total compensation in any year insures rotation of the staff, and opportunity for many doctors to gain experience as well as income. There would be no bar to continued voluntary service for those particularly interested. The use of general practitioners for the staff is a practical necessity and also familiarizes them with various special examinations. The rotation of the staff tends to eliminate possible jealousy arising between doctors because of fancied special advantages.

It is granted that this plan is not perfect. The type of study recommended may fail to find some of the rarer forms of cancer, and certainly may not reveal other conditions such as hypertension, arteriosclerosis (retinal), diabetes, syphilis, malaria, leukemia without adenopathy or splenomegaly, portal cirrhosis, or microscopic hematuria. On the other hand, careful history and examination should suggest the need for special diagnostic studies, which might well be included in the recommendations made to the family doctor. Rotation of examining physicians has the disadvantage of introducing untried personnel and errors in diagnosis may occur. It is our opinion that the advantages of examining more people at lower unit cost and for training more physicians in office diagnosis of cancer outweigh the disadvantages. Since the Cancer Detection Center is still in the experimental stage of development, we believe modified plans are worthy of trial.

Summary

(1) Better cancer control is a public demand which the medical profession must meet or resign to government agencies.

(2) Earlier diagnosis is the method available to all of us: new and specialized methods of treatment cannot be used by all doctors.

(3) The Cancer Detection Center is described and the reasons for its existence discussed.

(4) The drawbacks of present Detection Centers are outlined.

(5) A modified plan of operation for Cancer Detection Centers, within the standards set by the American College of Surgeons, is proposed. The major innovations suggested are: (a) the less exhaustive study of a larger number of patients at lower unit cost; and (b) the use of the Detection Center for postgraduate training of practicing physicians with adequate compensation for their services.

BOOK REVIEWS

Gynecology With a Section on Female Urology. By Lawrence R. Wharton, Ph. B., M. D., Assistant Professor of Gynecology, Johns Hopkins Medical School; Assistant Attending Gynecologist, Johns Hopkins Hospital; Consultant in Gynecology, The Union Memorial Hospital, Hospital for Women of Maryland, Sinai Hospital and Church Home and Infirmary. Second Edition. Pp. 1027, with 479 illustrations. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

The chapter on anatomy of the female pelvis and abdominal wall is quite detailed and especially well illustrated. The portion on embryology is concise, the important facts are discussed and gives a comprehensive knowledge of the subject.

The physiology of the ovary and corpus luteum including endocrine changes and pathology with the correlation to clinical symptoms are discussed in detail, especially the relationship of endocrine functions and disturbances to menstruation and uterine bleeding.

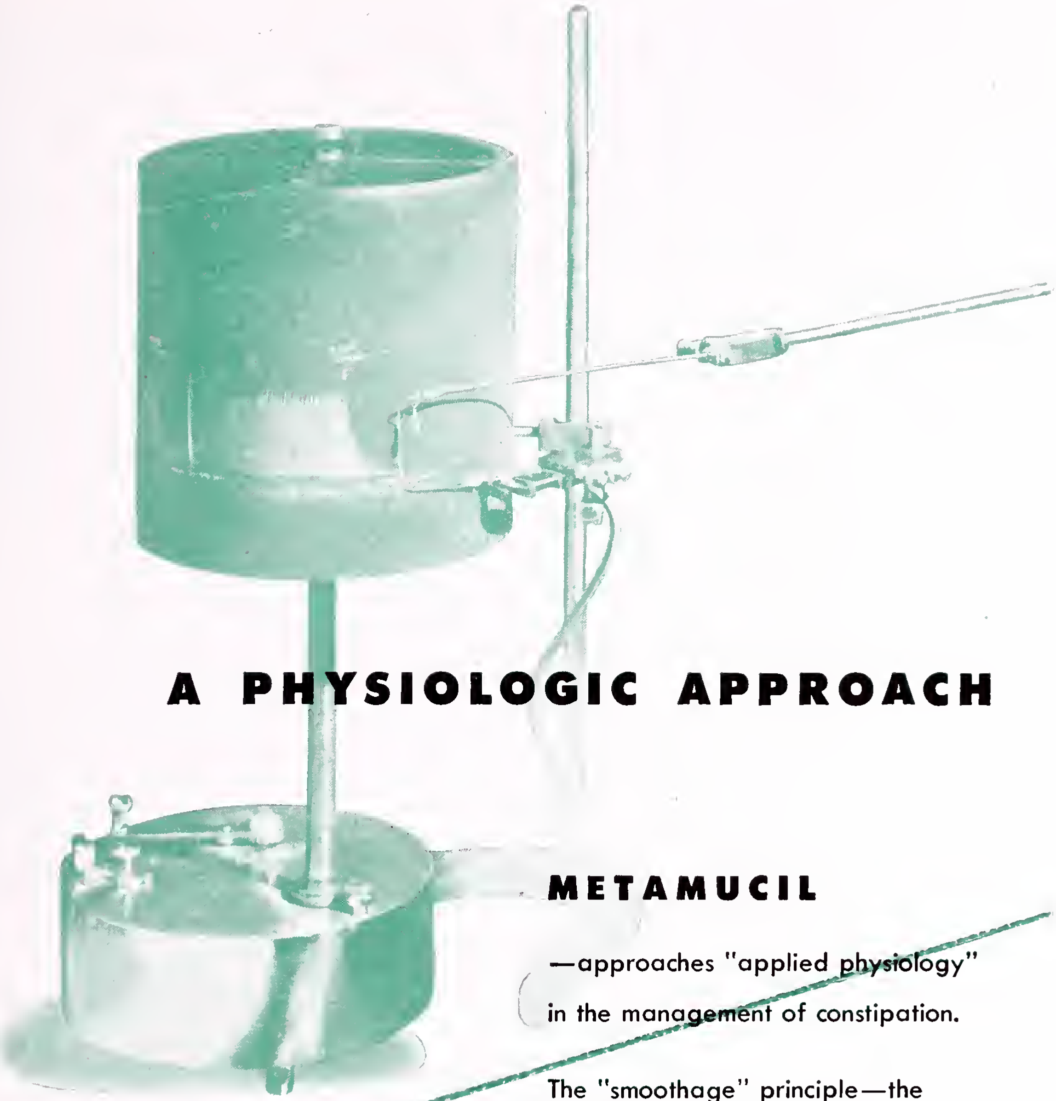
The author devotes a good deal of space to the operative treatment of childbirth injuries. This is especially well illustrated. The latter is also true of operative technique for some of the more frequent operative procedures.

The chapter on diagnostic procedures is well written. Considerable space is devoted to the subject of sterility, including diagnostic procedures, also the study of seminal fluid. Some discussion on the technique of artificial insemination is also included in this chapter.

An entire chapter is devoted to the appendix in its relationship to gynecology. The chapter on the postoperative care as well as the prevention and treatment of postoperative complications is discussed in detail. The care and treatment of the normal hygiene of healthy women is also included in this book.

A section of the book is given over to female urology. This includes the anatomy, embryology, and physiology, as well as malformations of the female urethra and bladder. Diagnostic technique for cystoscopy is given, also some operative procedures and treatment.

This book is well written and quite exhaustive for a single volume. The specialist, as well as the general practitioner, will find a useful addition to his library.



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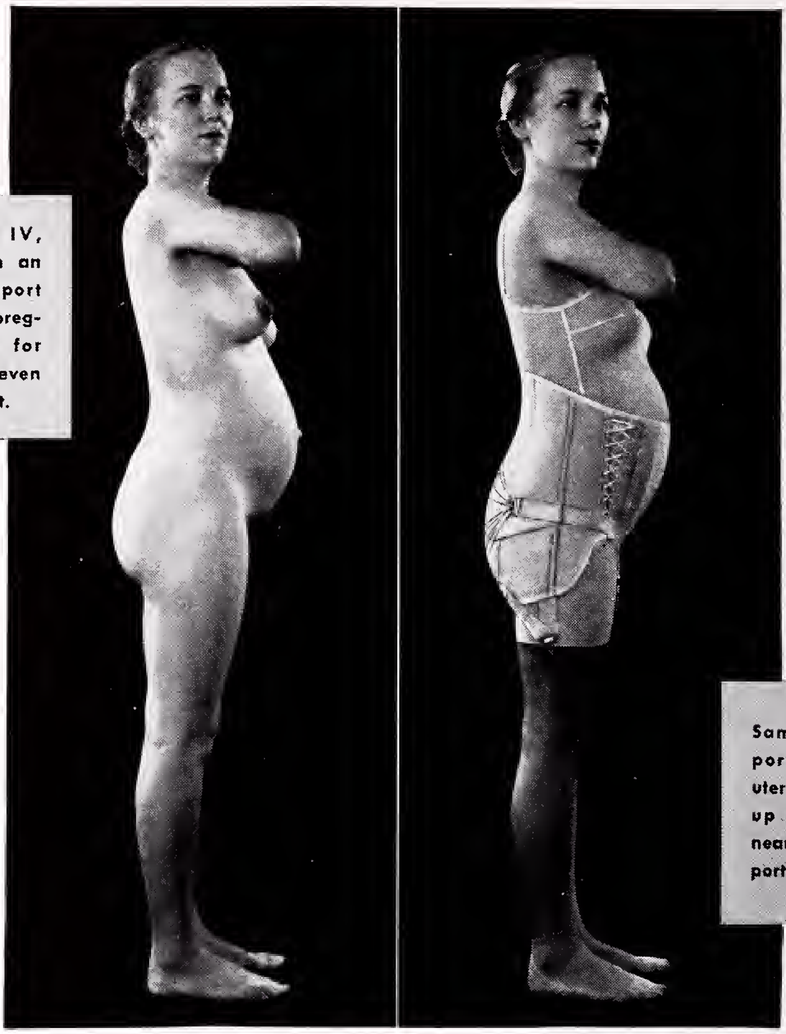

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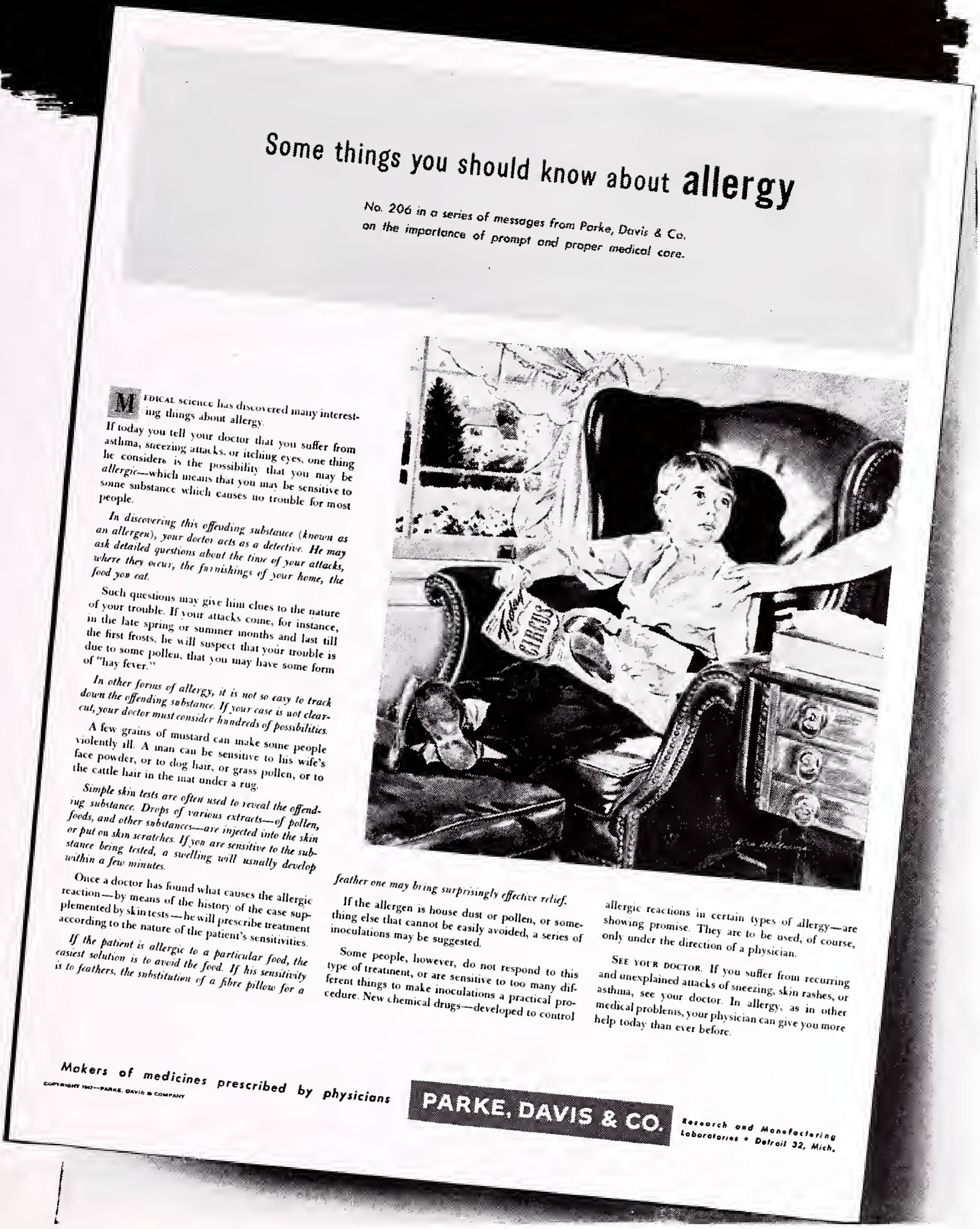

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Such questions may give him clues to the nature of your trouble. If your attacks come, for instance, in the late spring or summer months and last till the first frosts, he will suspect that your trouble is due to some pollen, that you may have some form of "hay fever."

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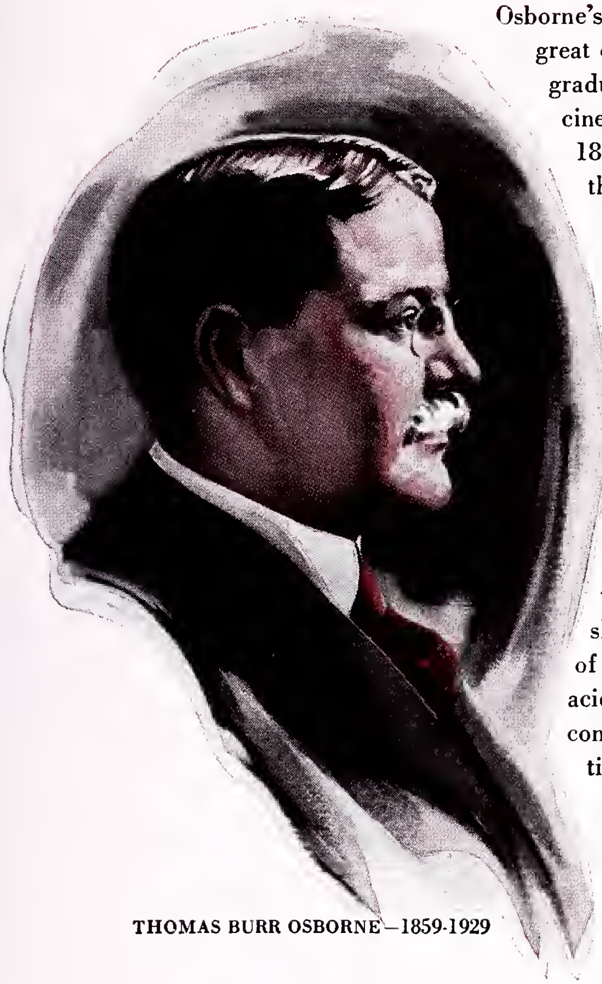

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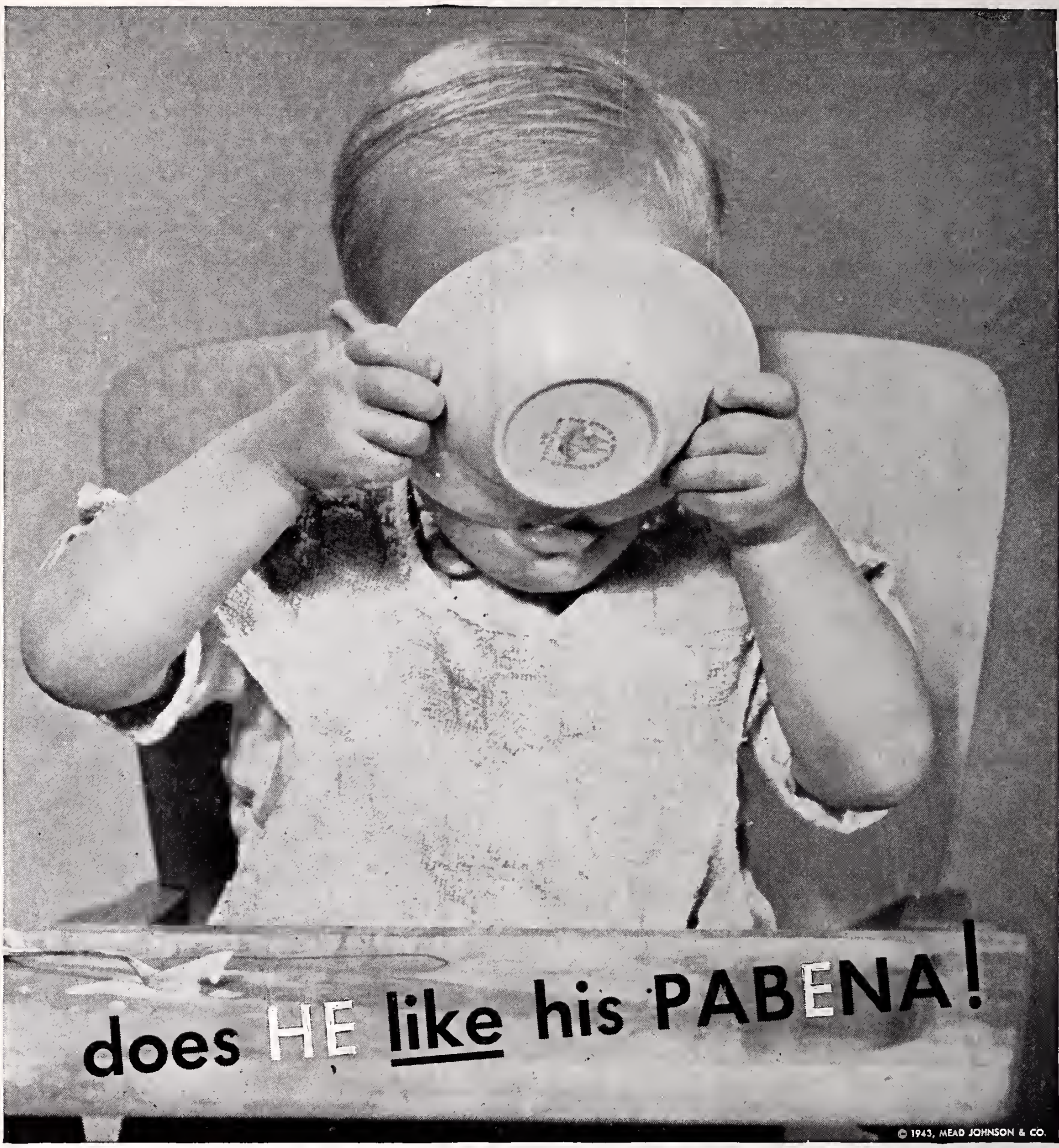
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INCORPORATED 1789

VOLUME 19
NUMBER 9

SEPTEMBER, 1947

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

BACKGROUND

Three Decades of Clinical Experience

THE use of cow's milk, water and carbohydrate mixtures represents the one system of infant feeding that consistently, for over three decades, has received universal pediatric recognition. No carbohydrate employed in this system of infant feeding enjoys so rich and enduring a background of authoritative clinical experience as Dextri-Maltose.

DEXTRI-MALTOSE No. 1 (with 2% sodium chloride), for normal babies.
DEXTRI-MALTOSE No. 2 (plain, salt free), permits salt modifications by the physician.
DEXTRI-MALTOSE No. 3 (with 3% potassium bicarbonate), for constipated babies.

These products are hypo-allergenic.

DEXTRI-MALTOSE

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

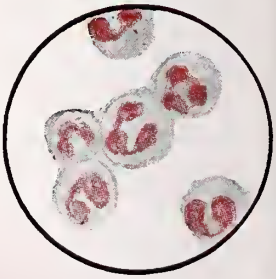
Mead Johnson & Company, Evansville, Ind., U. S. A.

M. S. of D. — WILMINGTON — Oct. 13 - 15

SYMBOLS OF SIGNIFICANCE

“*Laudable Pus?*

Tyrothricin



● The myth of laudable pus has long been shattered. As science advances, suppuration and the underlying pyogenic infection, exposed as major impediments to wound healing, become more amenable to control.

Now that TYROTHRICIN is available, wound contamination with gram-positive pathogens is still less likely to preclude early tissue repair. Streptococci, staphylococci, pneumococci and other gram-positive bacteria are inhibited by this highly potent, topical bactericide. TYROTHRICIN by irrigation, instillation and wet packs affords better antibiotic therapy to topical and accessible infection—in contaminated wounds, various types of ulcers, abscesses, osteomyelitis, and certain infections of eye, nasal sinus and pleural cavity.

TYROTHRICIN, Parke, Davis & Company, is one of a long line of Parke-Davis preparations whose service to the profession created a dependable symbol of significance in medical therapeutics—MEDICAMENTA VERA.

TYROTHRICIN is available in 10 cc. and 50 cc.
vials, as a 2 per cent solution (20 mg. per cc.)
to be diluted with sterile distilled water before use.

MEDICAMENTA · VERA ·
PD & CO.

PARKE, DAVIS & COMPANY · DETROIT 32, MICHIGAN

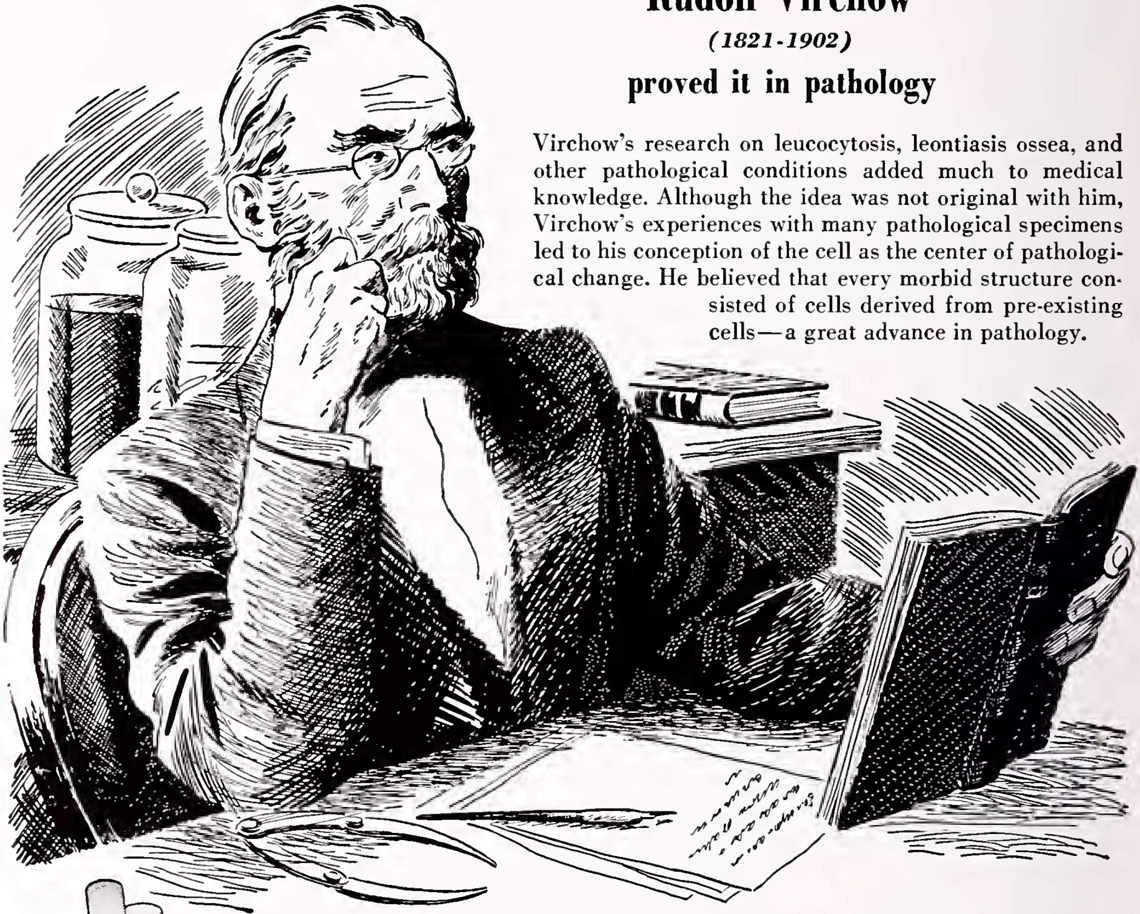
Experience is the Best Teacher

Rudolf Virchow

(1821-1902)

proved it in pathology

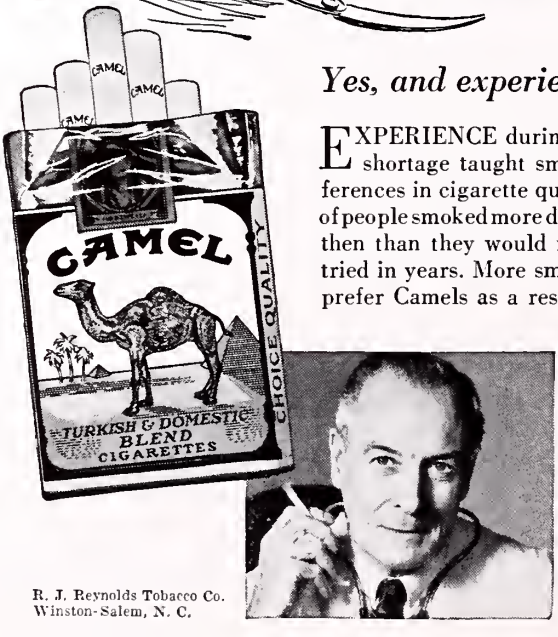
Virchow's research on leucocytosis, leontiasis ossea, and other pathological conditions added much to medical knowledge. Although the idea was not original with him, Virchow's experiences with many pathological specimens led to his conception of the cell as the center of pathological change. He believed that every morbid structure consisted of cells derived from pre-existing cells—a great advance in pathology.



Yes, and experience is the best teacher in smoking too!

EXPERIENCE during the wartime shortage taught smokers the differences in cigarette quality. Millions of people smoked more different brands then than they would normally have tried in years. More smokers came to prefer Camels as a result of that experience, so that today more people are smoking Camels than ever before.

But, no matter how great the demand, we don't tamper with Camel quality. Only choice tobaccos, properly aged, and blended in the time-honored Camel way, are used in Camels.



According to a recent Nationwide survey:

MORE DOCTORS SMOKE **CAMELS**

than any other cigarette

R. J. Reynolds Tobacco Co.
Winston-Salem, N. C.

Not To Be Sneezed At

In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetic allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

Since in the light of present knowledge it is not possible, save in specific cases, to make non-allergenic cosmetics, we believe the cosmetic requirements of the allergic individual should be considered by her doctor in the light of the formulas and general characteristics of the products she is using or contemplates using.

Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetic requirements and aesthetic preferences. They are made available to you by Cosmetic Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

Luzier's Inc., Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MO.

30 day crisis

The first 30 days of life might be called a truly critical period since the greatest number of infant deaths—62.1%—occur during this time. The proportion of infants who die within the first month has, in fact, increased nearly 10% in the past 20 years, while infant mortality on the whole was substantially reduced.*

So much the greater, then, is the importance of providing the most favorable conditions for maximum health during this fatal first month. Considering the role nutrition plays in infant health, a good start on the right feeding warrants special attention.

'Dexin' has proved an excellent "first carbohydrate" because of its high dextrin content. It (1) resists fermentation by the usual intestinal organisms; (2) tends to hold gas formation, distention and diarrhea to a minimum, and (3) promotes the formation of soft, flocculent, easily digested curds. 'Dexin' *does* make a difference.

*Vital Statistics—Special Reports: Vol. 25, No. 12, National Office of Vital Statistics, Washington, D. C. (Oct. 15) 1946, p. 206.

'Dexin' Reg. Trademark

HIGH DEXTRIN CARBOHYDRATE **'Dexin'** BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available Carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

New plastic cartridge

for CRYSTALLINE PENICILLIN G SODIUM SQUIBB

in Oil and Wax

You get these advantages with Squibb's New Double-Cell *Plastic* Cartridges for B-D* disposable or permanent syringes:

- New *Plastic* Cartridges minimize breakage hazards
- Sterile Aspirating Test Solution guards against accidental intravenous injection
- Crystalline Penicillin G Sodium Squibb in Oil and Wax at room temperature requires no heating
- Improved lubrication of stoppers further decreases breakage—speeds injections

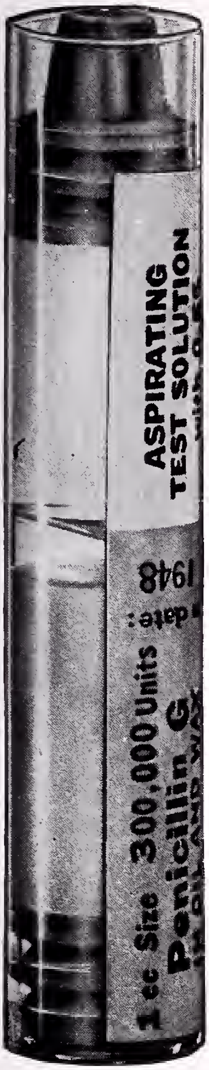
CRYSTALLINE PENICILLIN G SODIUM

SQUIBB IN OIL AND WAX

NOW comes in the new *plastic* double-cell cartridge which minimizes breakage hazards.

One cell of the double-cell cartridge contains 300,000 units of crystalline penicillin G sodium in refined peanut oil and 4.8% bleached beeswax (Romansky formula). The other cell contains Sterile Aspirating Test Solution. Therapeutic serum concentration levels are maintained for 24 hours with a single injection. In overwhelming infections, the dose may be doubled but the frequency need not be. Ambulatory treatment is practical for many diseases formerly requiring hospitalization.

For real convenience in administering penicillin in the home, office or emergencies try Crystalline Penicillin G Sodium Squibb in Oil and Wax in the new *plastic* double-cell cartridge.



300,000 units in 1 cc. double-cell *plastic* cartridges for B-D* Disposable Syringes or in B-D* permanent syringes.

*T. M. Reg. Becton, Dickinson & Co.

for use in control of overweight—

Benzedrine Sulfate has been accepted

by the Council on Pharmacy and Chemistry

of the American Medical Association

According to Freed (J. A. M. A., Feb. 8, 1947), "Benzedrine Sulfate . . . is of inestimable value in controlling the desire for food and in reducing the level of satiability to a more normal one. This drug is commonly administered in dosages of 5 mg. three times a day, thirty to sixty minutes before each meal. Occasionally patients will require 10 mg. at one or more times during the day, depending on their response to the drug."

The use of Benzedrine Sulfate alone ordinarily should achieve the desired appetite reduction. Combinations of amphetamine and thyroid serve no useful purpose and may even be dangerous. In this connection, a recent report of the Council (*Drugs for Obesity*, J. A. M. A., June 7, 1947) says: "The fallacy and dangers of overstimulating the body with thyroid and of using laxatives to aid in reduction are well known to the medical profession."

b

benzedrine

Smith, Kline & French Laboratories, Philadelphia

sulfate

(racemic amphetamine sulfate, S.K.F.)

One of the fundamental drugs in medicine

chemically similar to natural estrogens

ESTINYL (ethinyl estradiol) is "chemically similar to natural estrogen."[1] It is more active *orally* than any other synthetic or natural estrogen known today. ESTINYL is the first estradiol preparation that is efficacious by mouth in really minute amounts. It provides the economy inherent in low dosage. Five-hundredths of a milligram daily is sufficient to relieve the average menopausal patient. ESTINYL, closely allied to the primary follicular hormone, does more than mitigate vasomotor symptoms. ESTINYL quickly relieves the common nervous manifestations and bodily fatigue, and replaces them with a sense of emotional and physical fitness.

ESTINYL

tablets

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Average menopausal symptoms: One 0.05 mg. ESTINYL Tablet daily. Severe menopausal symptoms: Two or three 0.05 mg. ESTINYL Tablets daily. Many patients may be maintained in comfort with 0.02 mg. ESTINYL Tablet daily after initial control of estrogen deficiency.

Packaging: ESTINYL TABLETS of 0.05 mg.—pink, coated tablets and 0.02 mg.—buff, coated tablets, bottles of 100, 250 and 1,000.

1. Bickers, W.: Am. J. Obst. & Gynec. 51:100, 1946.

Trade-Mark ESTINYL—Reg. U.S. Pat. Off.

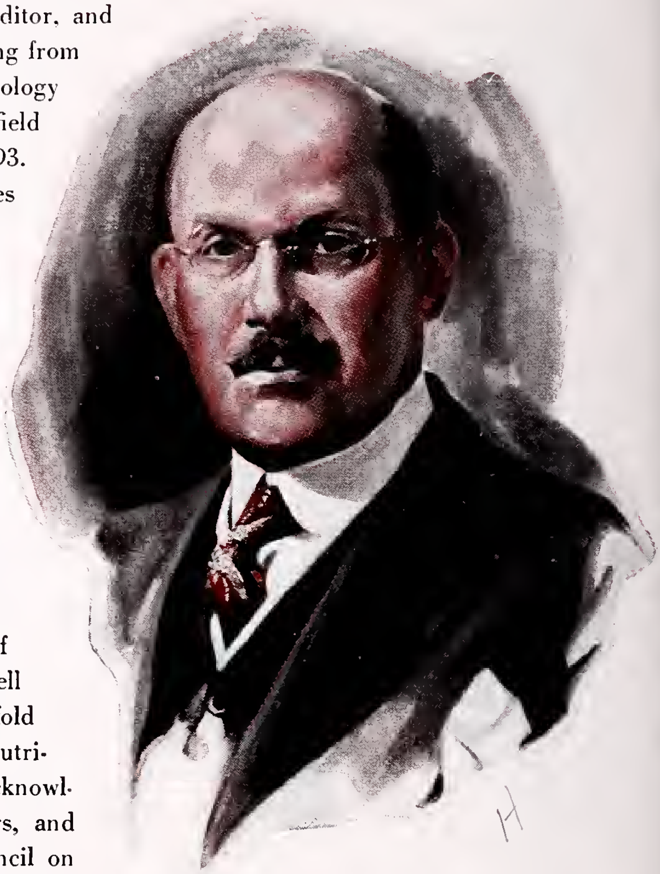
Schering CORPORATION
BLOOMFIELD, N. J.

SCHERING

Men and Amino Acids

Lafayette B. Mendel is recognized as a pioneer in the science of nutrition, and as a writer, editor, and educator of wide influence. On graduating from Yale University in 1891, he studied physiology and physiological chemistry in the Sheffield Scientific School, receiving his Ph.D. in 1893. In 1895 and 1896, he continued his studies abroad under Professor Heidenhain at Breslau, and Professor Baumann at Freiburg. Beginning as an assistant in physiological chemistry at Sheffield, Mendel became a full professor in 1903, and a member of the Governing Board. In 1921 he was named Sterling professor.

For many years, Mendel collaborated with the distinguished investigator of vegetable proteins, Thomas B. Osborne, conducting valuable researches on the comparative biologic value of proteins of differing amino acid composition, as well as in other fields of nutrition. His manifold contributions to our understanding of nutrition in the chemistry of life were acknowledged in numerous lectureships, honors, and awards. He was a member of the Council on Pharmacy and Chemistry of the American Medical Association from 1917 until the time of his death, and of the Committee on Foods from its inception.



LAFAYETTE BENEDICT MENDEL—1872-1935

The Arlington Chemical Company

Yonkers 1, *New York*

Seventh in a series

"by the tenth or twelfth day of life...

"...vitamin D
in a
concentrated form
...should be started."[1]

White's Cod Liver Oil Concentrate *Liquid* provides the wholly *natural* vitamins A and D derived exclusively from time-proved cod liver oil itself—the standard by which all antirachitic agents are measured. In liquid form for drop dosage to infants—convenient, palatable, economical.

1. Anderson, N. A.: Penn. Med. J., *48*:566-8 (Mar.) 1945

White Laboratories, Inc., Newark 7, N. J.

the boy
with the
"hollow
legs"

Periods of rapid growth and heightened metabolism call for *intensified* antirachitic therapy. White's Cod Liver Oil Concentrate *Tablets* provide the wholly *natural* vitamins A and D—in so pleasant tasting a form that even finicky young patients gladly cooperate.

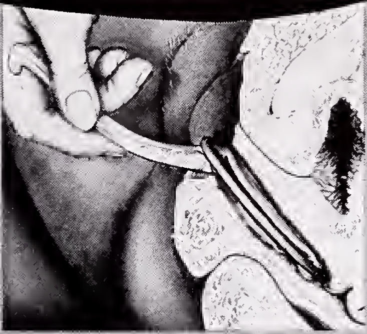
White Laboratories, Inc., Newark 7, N. J.

Designed to Assist the Patient

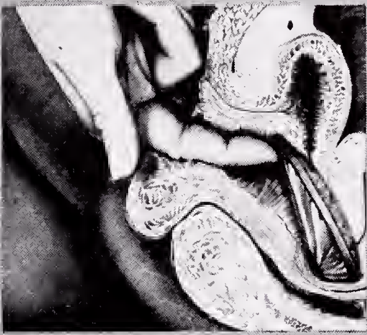
NO. 1 Beginning placement of diaphragm on introducer.

NO. 2 Diaphragm placed on introducer.

NO. 3 Application of jelly to diaphragm.



NO. 4 Beginning insertion of diaphragm.



NO. 5 Placement of diaphragm.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

The insertion and correct placement of the "RAMSES"* Flexible Cushioned Diaphragm are simplified by the use of the "RAMSES" Diaphragm Introducer as illustrated.

Our booklet, "Instructions For Patients", will be found helpful in guiding patients in the proper use of the "diaphragm-jelly technique". A supply will be sent to physicians on request.

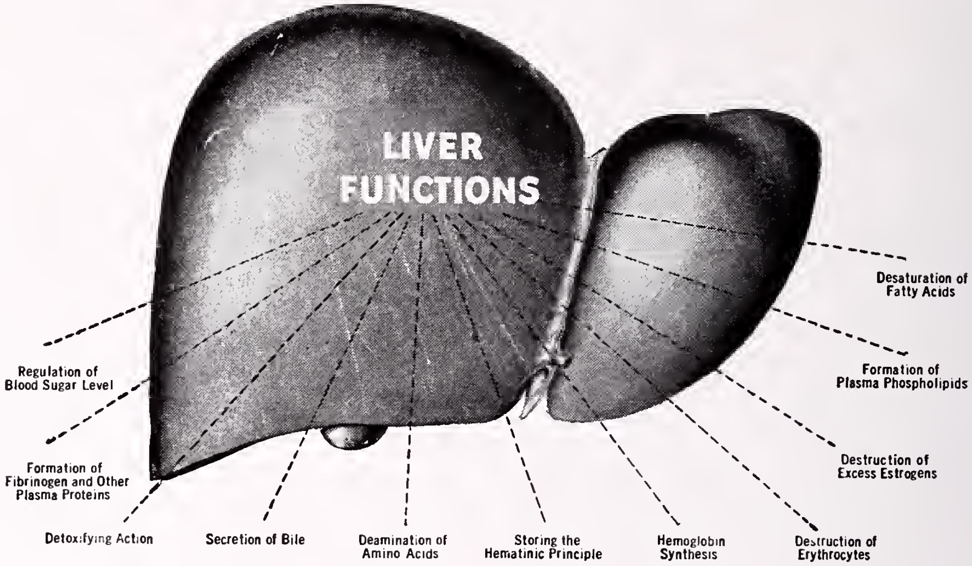
MARK OF Ramses DEPENDABILITY

gynecological division

JULIUS SCHMID, INC. 423 WEST 55th ST., NEW YORK 19, N. Y.

quality first since 1883

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.


LIVER FUNCTIONS
Regulation of Blood Sugar Level
Formation of Fibrinogen and Other Plasma Proteins
Detoxifying Action
Secretion of Bile
Deamination of Amino Acids
Storing the Hematinic Principle
Hemoglobin Synthesis
Destruction of Erythrocytes
Destruction of Excess Estrogens
Formation of Plasma Phospholipids
Desaturation of Fatty Acids

To Guard the Functional Integrity of the **LIVER**

The complex nature of the manifold functions of the liver is reflected in the diagram shown above. To maintain its functions in an efficient manner, the liver must be adequately protected against toxic influences. Parenchymatous damage with ensuing decreased functional capacity can lead to severe metabolic derangements.

Protein deficiency is an important factor in precipitating impaired liver function. Hence an adequate intake of biologically complete protein, ordinarily in the form of protein foods, is indispensable as a safeguard of liver competency.

Among man's protein foods, meat ranks high not only because of its generous content of protein, but also because its protein is complete, capable of satisfying all protein requirements. Furthermore, all meat is 96 to 98 per cent digestible.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES
]

For better skin care

Even the mildest soaps contain fatty acids and alkali which, on continued use, may become a source of irritation that produces or aggravates eczematous lesions.

pHisoderm the modern soapless detergent, has the same *pH* as the normal skin and is hypoallergenic, containing no fatty acids, alkali, color or perfume. *pHisoderm* effectively cleans without irritation. It makes an abundant lather in hard and cold water, and is approximately 40 per cent more surface active than soap.

Write for detailed literature and samples.

pHisoderm
Trademark reg. U. S. Pat. Off. & Canada

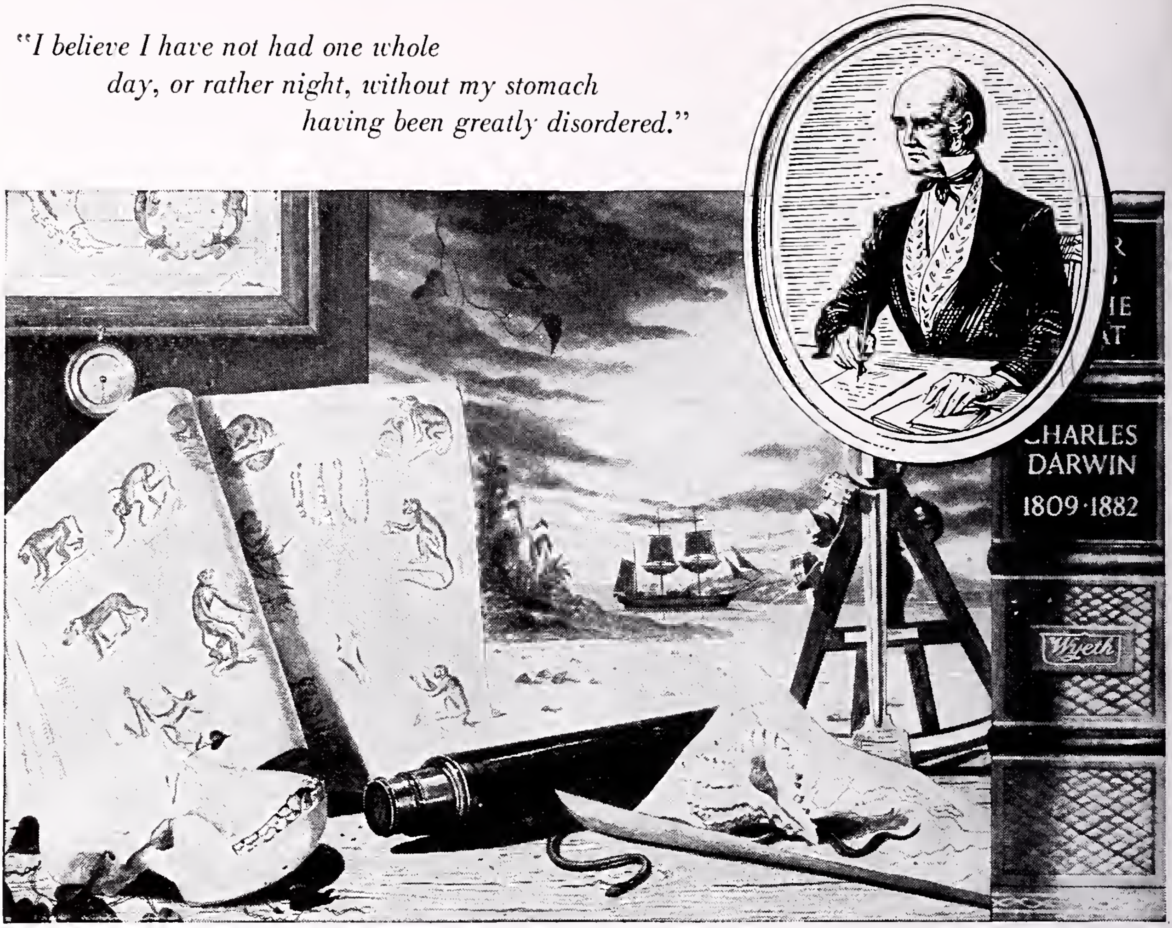
sudsing detergent cream

Regular, Oily and Dry Types in bottles of 2 oz., 7 oz., 12 oz. and 1 gallon. Also in 3 oz. refillable hand dispensers.

WINTHROP

Winthrop
CHEMICAL COMPANY, INC.
New York 13, N. Y. • Windsor, Ont.

"I believe I have not had one whole
day, or rather night, without my stomach
having been greatly disordered."



During the most productive years of his life, Charles Darwin was a victim of peptic ulcer.[1] His might be called the *average* case of peptic ulcer. Had modern medical understanding of ulcer treatment been available to him, his life could have been far more comfortable—and even more productive!

Proper use of an alumina gel antacid and an occasional sedative would doubtless have carried him through his most active years without suffering.

[1] *Rehfuss, M. E., The Ulcer Life, Clinics 3:480-493 (Oct.) 1944*

PHOSPHALJEL, Aluminum Phosphate Gel, Wyeth, is unexcelled in the treatment of "average" ulcer cases as well as in stubborn or complicated ones. It provides quick relief from pain . . . lays a protective coating over the inflamed mucosa . . . *safely* buffers gastric acidity with no danger of alkalosis or "acid rebound." Phosphaljel permits a liberal bland diet—patients are more contented during treatment, gain strength and weight more quickly.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

PHOSPHALJEL®

WYETH INCORPORATED Wyeth® **PHILADELPHIA 3, PA.**

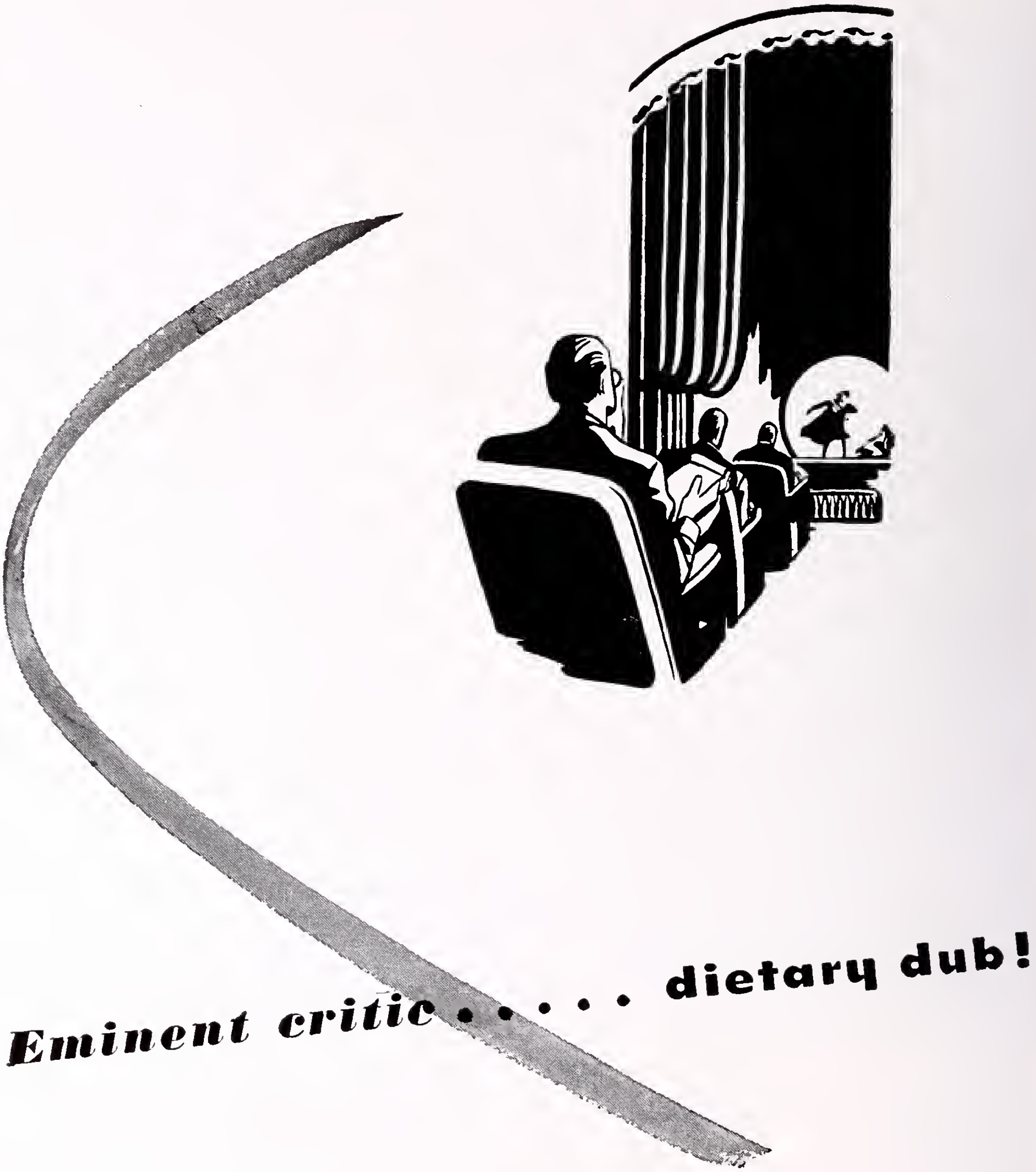
Pyribenzamine

High-concentration Elixir Pyribenzamine hydrochloride now provides a second administration form of this proved antihistaminic. Containing 20 mg. of Pyribenzamine hydrochloride per 4 cc. (teaspoonful), the Elixir has obvious advantages in special cases, notably in infants and children, and in adults who prefer liquid medication.

Scored tablets of Pyribenzamine also facilitate small dosage when indicated—the 50 mg. tablets are easily broken to provide 25 mg. doses.

Council Accepted. PYRIBENZAMINE hydrochloride ® (brand of tripelennamine hydrochloride)

CIBA **PHARMACEUTICAL PRODUCTS, INC., SUMMIT, N. J.**


Eminent critic . . . . dietary dub!

At meal time his renowned judgment deserts him. Eating only the food he likes, a choice of notably limited range, he thrice daily produces a burlesque on proper nutrition. Inevitably, this perennial first-nighter makes his entrance into some physician's reception room—the victim of a self-made, borderline vitamin deficiency. In the same cast, you will find other familiar types. Included in it are the ignorant and indifferent, people "too busy" to eat properly, those on self-imposed and badly balanced reducing diets, excessive smokers, food faddists and alcoholics, to name a few. First thought in such cases is dietary reform, of course. Along with that, a dependable vitamin supplement may well be in order. When you prescribe an *Abbott* vitamin product, you are assured that the patient will receive the full vitamin potencies intended. Your pharmacy carries a complete line of Abbott vitamin products in a variety of dosage forms and package sizes, and will be pleased to fill your prescriptions. Abbott Laboratories, North Chicago, Illinois.

SPECIFY

Abbott Vitamin Products

FOR AN ACTIVE MIDDLE AGE

A "PLUS"

The "plus" is the gratifying "sense of well-being" so many menopausal patients experience following "Premarin" therapy. It is the intangible factor which, added to relief of distressing symptoms, enables the middle-aged woman to resume her normal routine of useful and enjoyable activities.

"Premarin" provides naturally occurring, conjugated estrogens for effective therapy by the oral route. Untoward side effects are rarely noted with "Premarin."

"Premarin" is now available as follows:

Tablets of 2.5 mg.	in bottles of 20 and 100
Tablets of 1.25 mg.	in bottles of 20, 100 and 1000
Tablets of 0.625 mg.	in bottles of 100 and 1000
Liquid containing 0.625 mg. per 4 cc. (one teaspoonful)	in bottles of 120 cc.

While sodium estrone sulfate is the principal estrogen in "Premarin," other equine estrogens . . . estradiol, equilin, equilenin, hippulin . . . are also present as water-soluble sulfates. The water solubility of conjugated estrogens (equine) permits rapid absorption from the gastrointestinal tract.

CONJUGATED ESTROGENS
(equine)

"Premarin"®

AYERST, McKENNA & HARRISON Limited

22 EAST 40th STREET, NEW YORK 16, N. Y.

DO YOU KNOW WHAT THESE SYMBOLS STAND FOR?

Rexall
DRUGS

REXALL FOR RELIABILITY

For centuries the owl has symbolized great knowledge and superior wisdom. "Wise as an owl" was a quip of Caesar's time. The canny bird was sacred to Minerva, Roman goddess of learning and of science. The natural assumption was that the owl acquired wisdom from his patroness.

For many years, the familiar Rexall symbo has denoted excellent standards of pharmaceutical science. From coast to coast more than 10,000 selected, independent pharmacies display this sign. It assures you that fine, laboratory-tested Rexall drug products and skilled pharmacists are at your service.

REXALL DRUG COMPANY
LOS ANGELES, CALIFORNIA
PHARMACEUTICAL CHEMISTS FOR MORE THAN 44 YEARS

Ampoule
No.
SULFATHIAZOLE SODIUM
Anhydrous, 5 Gm.
[2-(p-aminobenzenesulfonamido) thiazole sodium]
Lilly
ELI LILLY AND COMPANY
INDIANAPOLIS, U.S.A.
No. 1635
100
Tablets
SULFATHIAZOLE
[2-(p-aminobenzenesulfonamido) thiazole]
0.5 Gm. (7.72 grs.)
WARNING—This drug may cause severe toxic reactions and irreparable damage. Examine the blood daily for signs of anemia or leukopenia, and the urine for hematuria. Constant supervision of the patient is essential.
CAUTION—To be used only by or under the direct supervision of a physician. Literature available to physicians on request.
No. 1679
100
Tablets
SULFAMERAZINE
(2-sulfanilamido-4-methyl-pyrimidine)
0.5 Gm. (7.72 grs.)
WARNING—This drug may cause toxic reactions. If such reactions occur discontinue the drug and force fluids. Constant supervision of the patient is essential.
CAUTION—To be used only by or on the prescription of a physician. Literature available to physicians on request.
Lilly
ELI LILLY & COMPANY
Indianapolis, U.S.A.
No. 1666
100
Tablets
SULFADIAZINE
(2-sulfanilamidopyrimidine)
0.5 Gm. (7.72 grs.)
WARNING—This drug may cause severe toxic reactions and irreparable damage. Examine the blood daily for signs of anemia or leukopenia, and the urine for hematuria. Constant supervision of the patient is essential.
CAUTION—To be used only by or under the direct supervision of a physician. Literature available to physicians on request.
Lilly
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INDIANAPOLIS, U.

Lilly

UNIFORM, ACCURATE,

CAREFULLY STANDARDIZED

SULFA DRUGS bearing the Lilly Label are prominent among the more recent medicinal agents of proved therapeutic value. They are noted for their uniformity in appearance, accuracy of dosage, and careful standardization. Available in logical dosage forms and sizes.

ELI LILLY AND COMPANY

INDIANAPOLIS 6, INDIANA, U. S. A.

A 12x15 reproduction of this Arthur Sarnoff color illustration, suitable for framing, is available upon request.

Doctors and Detectives

THE PHYSICIAN is usually among the first to visit the scene of a tragedy. In solving crime, the type and location of wounds, abrasions, or bruises may have distinct significance. Bloodstains, scientifically examined, may provide the convicting evidence. Skeletal remains often reveal important facts concerning sex and age. Police records emphasize the importance of medical aid in the solution of crime.

Broad knowledge, keen observation, and the ability to piece facts together into a coherent whole are characteristic attributes of the physician. These same accomplishments are equally important in the field of medical research. In the Lilly Research Laboratories, physicians team with specialists in many related fields of science to attack problems which confront the clinician.

1789—MEDICAL SOCIETY OF DELAWARE—1947

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J. S. McDaniel, Dover
R. C. Beebe, Lewes

Vocational Rehabilitation

L. J. Jones, Wilmington
D. J. Preston, Wilmington
W. H. Speer, Wilmington
H. V'P. Wilson, Dover
E. L. Stambaugh, Lewes

Postwar Plans

M. A. Tarumianz, Farnhurst
W. E. Bird, Wilmington
W. O. LaMotte, Wilmington
W. H. Speer, Wilmington
J. S. McDaniel, Dover
William Marshall, Jr., Milford
J. R. Elliott, Laurel
J. B. Waples, Georgetown
R. C. Beebe, Lewes

Budget

M. A. Tarumianz, Farnhurst
C. E. Wagner, Wilmington
J. D. Niles, Townsend
J. S. McDaniel, Dover
James Beebe, Lewes

Cheff Memorial

W. W. Lattomus, Wilmington
E. R. Miller, Wilmington
A. J. Heather, Wilmington

Advisory, Delaware State Health and Welfare Center

L. J. Jones, Wilmington
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A. R. Cruchley, Middletown
I. J. MacCollum, Wyoming
E. L. Stambaugh, Lewes

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A. Leon Heck, *President-elect*
C. T. Lawrence, Jr., *Vice-President*
D. D. Burch, *Secretary*
Charles Levy, *Treasurer*

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Board of Censors: B. M. Allen, 1947; N. W. Voss, 1948; C. L. Hudiburg, 1949; C. L. Munson, 1950; J. M. Messiek, 1951.

Program Committee: A. L. Heck, Roger Murray, C. T. Lawrence, Jr.

Legislative Committee: M. A. Tarumianz, J. M. Barsky, E. M. Bohan, F. A. Bowdle, L. C. MeGee.

Public Relations Committee: C. E. Wagner, G. M. Boines, I. M. Flinn, Jr., M. B. Pennington, O. N. Stern.

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Alternates (1947): E. M. Bohan, I. M. Flinn, Jr., E. G. Laird, W. H. Lee, L. C. McGee, C. E. Maroney, W. M. Pierson, D. J. Preston, W. T. Reardon, J. A. Shapiro, W. J. Urie.

Delegates (1948): D. D. Burch. Ira Burns, N. L. Cutler, J. R. Durham, Jr., J. A. Giles, A. L. Heck, J. C. Pierson, W. F. Preston, M. A. Tarumianz, R. O. Y. Warren.

Alternates (1948): G. M. Boines, Italo Charamello, D. M. Gay, L. S. Hayes, A. J. Heather, A. D. King, E. T. O'Donnell. M. B. Pennington, F. P. Rovitti, O. N Stern.

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Eugene H. Mercer, *Secretary-Treasurer*, Dover.

Delegates: J. S. McDaniel, H. W. Smith.

Alternates: I. J. MacCollum, John Martin.

Censor: W. C. Deakyne.

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Alternates: L. M. Dobson, C. M. Moyer, E. L. Stambaugh, G. W. M. Van Valkenburgh.

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W. EDWIN BIRD, M. D.
PRESIDENT of the MEDICAL SOCIETY of DELAWARE
1947

DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 9

SEPTEMBER, 1947

Per Copy, 20c
Per Year, $2.00

THE CANCER PROGRAM OF THE STATE BOARD OF HEALTH

John W. Spies, M. D., M. P. H.,*
Dover, Del.

The purpose of this report is to furnish information to date of the steps which have been taken to develop a cancer program by the State Board of Health. Each year, or perhaps at shorter intervals, it is hoped that official information will be published where organized medicine may become cognizant of the progress made.

In Delaware there are many competent workers in this field who have labored over the years, and their contributions now furnish a sound foundation upon which to build further. Their assistance, and that of new workers, is sought to give Delaware a good over-all program in which that of the State Board of Health will be a part.

On October 8th, 1946, the Committee on Cancer of the Medical Society of Delaware reported to the Society that two groups were interested in cancer control, these being the Delaware Division of the American Cancer Society and the State Board of Health. It was suggested that the Cancer Committee of the State Medical Society act as an Advisory Committee to both organizations and that it be authorized "to review, modify or approve any plans submitted by the above organizations in the name of the Medical Society of Delaware." In the elaboration of this, it was pointed out that the procedure was simply to back up the Delaware Division of the American Cancer Society and the State Board of Health, that the two organizations "might make plans with regard to the cancer clinics which they may wish to submit to the State Society for approval," and that the Cancer Committee would "pass on those plans in the name of the Medical Society of Delaware." A motion was carried which embodied the above.

In December of 1946, the State Board of Health requested me to study the question of obtaining legislation to support a cancer control program. In doing so I travelled over the state several times and interviewed many persons. The State Board of Health had a meeting on January 26, 1947, and approved specifically the bill to be presented to the General Assembly.

On February 2, 1947, the Cancer Committee of the Medical Society of Delaware approved "the act appropriating money to the State Board of Health for Cancer Control" and recommended the following:

1. The establishment of a central registry directed toward accurate recording of cancer morbidity and mortality and statistical research.
2. The assistance in the establishment of diagnostic and investigative clinics where needed.
3. To consider the support of existing facilities for the treatment of malignant disease or the establishment of additional facilities.

On April 9, 1947, Governor Bacon approved Senate Bill No. 164 and which is as follows:

An act appropriating money to the state board of health for cancer control.

Be it enacted by the senate and house of representatives of the state of delaware in general assembly met:

Section 1. That the sum of Twenty-five Thousand Dollars ($25,000.00) be and the same is hereby appropriated to the State Board of Health annually for the fiscal years beginning July 1, 1947, and beginning July 1, 1948, to be used for the detection of cancer, for research in cancer, and for other purposes related to cancer prevention and control.

Section 2. Within ninety (90) days after the passage of this Act, the State Board of Health shall create an Advisory Committee consisting of eleven members selected from the Delaware Branch of the American Cancer Society, Delaware Medical Society, the Delaware Hospital Association and the Wilmington Board of Health. The Advisory Committee shall serve in a consultant capacity to the State Board of Health relative to the promotion and operation of the cancer program of the State Board of Health as herein provided.

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* Director, Cancer Control Division, Delaware State Board of Health.

Section 3. This Bill shall be known as a Supplementary Appropriation Act, and the money hereby appropriated shall be paid out to the General Fund of the State Treasury from sums not otherwise appropriated.

On May 22, 1947, the President of the State Board of Health, the President and the Secretary of the Medical Society of Delaware and I attended a meeting of the Regional Conference on Medical Service in Philadelphia which, among other things, took up "Organized Medicine's Relationship to the Various Cancer Drives." Many worthwhile points were emphasized. These will be kept in mind by the State Board of Health in developing its cancer program. Among them might be mentioned assistance to, and not competition with, practitioners of medicine, and the approval of medical associations.

On the 25th of May, 1947, the State Board of Health established the Division of Cancer Control and appointed me as director.

Pursuant to Section 2 of Senate Bill No. 164, an Advisory Committee consisting of the following was appointed: James Beebe, M. D.; D. M. Gay, M. D.; Mr. H. O. Gray; A. P. Hitchens, M. D.; J. W. Howard, M. D; J. F. Hynes, M. D.; J. D. Niles, M. D.; Mrs. Thomas D. Mylrea; John W. Spies, M. D.; Mrs. James M. Tunnell, Jr.; Mr. Floyd W. Woodcock.

At the first meeting on July 10, 1947, the Committee elected Mr. Woodcock as Chairman and Dr. Spies as Secretary. The Advisory Committee recommended the following:

1. That the programs of the State Board of Health and the Delaware Division of the American Cancer Society be correlated if possible, after which the two programs will be submitted to the Cancer Committee of the State Medical Society with a request for study and approval.
2. That morbidity record collection is a proper activity of the State Board of Health and that a survey should be undertaken by the State Board of Health.
3. That uniform blanks should be prepared for medical examinations relative to cancer.

Thus it can be stated that within less than a year important steps have been taken by the State Board of Health to develop a cancer program in Delaware. In time, there should be an attainment of all worthwhile objectives with the collaboration of the American Cancer Society and other interested organizations or parties. The program will combat any trend towards socialized medicine, and it will be conducted for organized medicine in the interest of the public as such. It is hoped that those persons promoting socialized or state medicine will find it an effective barrier to their efforts.

STATUS OF STREAM POLLUTION ABATEMENT PROJECTS IN THE DELAWARE VALLEY

R. C. BECKETT, B. S.,*
Dover, Del.

The Delaware River basin has made history in more ways than one. It was not only the site of the cradle of liberty and the stage upon which the fight for the most democratic form of government in the world was enacted, but also has achieved renown for having the smelliest, most polluted river in the United States. The urgency of cleaning up the Delaware's unhealthy impurity — championed by INCODEL since its organization—has at last taken hold.

In 1937, ten years ago, just after the Commission was formed, a technical advisory committee on Water Quality was appointed to study the problem. Each of the Chief Engineers of the Departments of Health in Pennsylvania, New York, New Jersey and Delaware, plus INCODEL's staff made up its membership.

To this committee was assigned the task of formulating a set of rules and regulations, or standards, if you prefer, which were designed to govern the minimum treatment of wastes discharged into the Delaware, and its tributaries.

After months of planning, consideration and negotiation, these minimum standards respecting the discharge of wastes were enacted into law by the various basin states.

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* Director and State Sanitary Engineer, Division of Sanitary Engineering, Delaware State Board of Health and Vice-Chairman, Interstate Commission on the Delaware River Basin.

Prior to the war, the Quality Committee had established a schedule, setting up priority ratings for the construction of abatement projects necessary to the restoration of the river. Under this schedule, more than ten million dollars worth of sewage treatment works had been built throughout the basin. The all-out war effort, however, with its restrictions on the use of materials and the shortage of manpower, put a temporary halt to that program.

The war, however, did more than set aside the pollution abatement construction program. It sharply focused the spotlight upon the pollution problem. Throughout the basin those who heretofore were only mildly interested became greatly concerned with the future of the foully saturated river.

It happened like this. The war brought to the basin great industrial expansion, and increased production, all of which caused a tremendous increase in the amount of industrial wastes of varying degrees of potency. At the height of the war effort, the Delaware River was abominably polluted.

Thus for the first time, the river waters were so badly polluted that they backfired on the contributing industries along and near the river. The sick waters attacked electrical contacts, causing failures in operation. Industrial machinery depreciated fifty per cent more rapidly than ever before, and, of course, machinery at best was either very difficult or impossible to obtain.

Industries found out for themselves that it was wiser and in some cases more profitable to treat their own wastes rather than to attempt to meet the cost in time and money of obtaining new equipment.

I am happy to announce that as a result of these very realistic conditions, industries who previously ignored their wastes treatment responsibilities are *now* cooperating wholeheartedly in support of the INCODEL basin-wide stream pollution abatement program.

Overnight, many concerned were animated by one belief that something, indeed, should be done about cleaning up the Delaware. And I might add, up and down, along and around the shores of the Delaware things began to look up.

In the Fall of 1943, there was a nation-wide movement to blueprint the country's needs for municipal sewage treatment works in order to clean up stream pollution and create employment during the reconversion period. The Delaware River Basin states did a splendid job in supporting this program.

As a result of these developments, strengthened by the spirit of interstate cooperation supplied by INCODEL, we have today a large store of plans and specifications for municipal waste treatment on hand, and are awaiting only the proper time and wherewithal to proceed with construction.

During the long waiting period, Philadelphia was the focal point to which all municipalities rightly looked as being responsible for setting the pace. Quite properly, it has at last broken the log jam by taking the lead in breaking down the barriers of inter-municipal prejudice and apathy. In May of this year, Mayor Samuel broke ground for the city's Northeast Sewage Treatment Plant. The plant should be sufficiently completed to be placed in operation before the summer of 1949. If all goes well, Philadelphia this Fall should receive bids on the first units of a second plant, in the Southwest. Also, she holds specifications for still another duplicate in the Southeast.

Now that Philadelphia is definitely on its way towards meeting its obligation to assist in the cleaning up of the river, other municipalities in the metropolitan area will be expected to follow suit and carry out their promises to begin construction at an early date.

Across the river, we find Camden and Gloucester prepared to make a big thing of the river clean-up program, although, unfortunately, they are now embarrassed by financial difficulties.

Nevertheless, Camden has completed about three-quarters of its design for intercepter sewer and pumping station projects. The Commissioners have provided enough money to meet the costs of a number, if not all, of these undertakings. The city will probably finally settle for a sewer rental law similar to Philadelphia's in order to complete the financing of its project.

Faced with an identical obstacle, Gloucester has failed to go ahead as rapidly as it should with its program. But engineers are at work there, and it is believed that designs will soon be submitted to the State Health Department.

Another offender in New Jersey is Phillipsburg, across the river from Easton. That town already has a primary treatment plant which is now heavily overloaded with industrial wastes. For several years the State Department of Health has been negotiating for a more satisfactory disposal setup there. At the moment, Phillipsburg has an adequate set of plans, but is without a method of financing any real work.

In New York, the State Post War Planning Commission has made a great contribution towards improving future water supply and recreation facilities in the upper Delaware River basin by encouraging nearly all the small communities there to complete plans for abatement projects. Here again INCODEL's enthusiasm has been contagious. Construction of a plant at Port Jervis is expected to begin in the very near future. It is being financed by the New York City Board of Water Supply with the cooperation of the municipality. The other New York-Delaware basin communities are all awaiting the development of satisfactory financial programs.

In the Schuylkill River subbasin, most towns have carried out instructions of the Sanitary Water Board to prepare to add secondary treatment to their existing primary treatment plants. In the area above Reading, a number of the municipalities are preparing plans for primary treatment. The construction of these improvements will go hand in hand with the removal of the coal culm and silt from the river under the State's Schuylkill River clearance project. The legislature has appropriated a total of $10,000,000 for that work.

Bethlehem has completed plans which are before the Sanitary Water Board for approval. Incidentally, this city is in a position to meet the expenses of its new river waste undertakings.

Easton, situated at the junction of the Lehigh and Delaware Rivers, is another larger Pennsylvania community that has completed plans which have been approved by the Sanitary Water Board. Again, however, a financial program to meet the cost of the actual undertaking is now in order.

Many other municipalities in the Pennsylvania section of the Delaware basin have completed plans and specifications for pollution abatement projects. Others have plans in the course of preparation.

In Delaware, the principal offender is the city of Wilmington, which has been waiting for Philadelphia to proceed with its construction program. As a result of continued requests from the Delaware Department of Health, and INCODEL, Mayor Wilson directed the Board of Directors of the Street and Sewer Department to appoint an Advisory Committee of outstanding citizens to study the problems. As a result of these studies, $175,000 has been granted the city for master-planning by the Community Facilities of the Federal Works Agency.

Under the new time schedule set up by the four chief engineers of the several state departments and boards of health, and adopted by the respective state health department or board officials, the schedule calls for the completion of plans for the city of Wilmington by 1949 and the completion of primary treatment works by 1951.

In the case of New Castle, plans are to be ready by the end of 1951 and primary treatment completed by 1953. This same schedule also applies to the towns of Bellefonte and Delaware City.

A complete schedule for the four zones is as follows:

INTERSTATE COMMISSION ON THE DELAWARE RIVER BASIN CONSTRUCTION SCHEDULE FOR MUNICIPAL SEWAGE TREATMENT FACILITIES

The following table lists, by zones, the type of existing sewage treatment facilities for each municipality now discharging domestic sewage in the interstate Delaware River, together with the time schedule for municipal construction projects necessary to maintain and improve the quality of the Delaware River in accordance with the minimum requirements established by the Interstate Commission and agreed to by the State Departments of Health of Delaware, New Jersey, New York and Pennsylvania.

Municipality	Type of Existing Sewage Treatment Facilities	Type	Requirements Regarding Additional Sewage Treatment (Completion Date)
ZONE 1			
Hancock, New York	None	Complete	1950
Port Jervis, New York (1)	None	Complete	1948
Belvidere, New Jersey (2)	None	Complete	1950
Easton, Penna.	Primary	Complete	1948
Phillipsburg, New Jersey	Primary	Complete	1948
ZONE 2			
Trenton, New Jersey	Primary	Complete	1949
Florence, New Jersey	Primary	Complete	1949
Burlington, New Jersey	Primary	Complete	1949
Bristol, Penna.	Primary	Complete	1949
Beverly, New Jersey	Primary	Complete	1949
Riverside, New Jersey	Primary	Complete	1949
ZONE 3			
Riverton, New Jersey	None	Primary	1949
Philadelphia, Pa.	Primary for about 20% of sewage flow.	Primary and Secondary for 100% of flow	1951
Camden, New Jersey	Primary for about 20% of sewage flow.	Primary and Secondary for 100% of flow.	1949
Central Del. Co. Com., Pa.	None	Primary and Secondary	1949
Gloucester, N. J.	None	Primary and Secondary	1949
Lower Del. Co. Com., Pa.	None	Primary	1949
ZONE 4			
Wilmington, Del.	None	Primary	1951
New Castle, Del.	None	Primary	1953
Bellefonte, Del.	None	Primary	1953
Delaware City, Del.	None	Primary	1953

The question of industrial wastes, other than those located within the several cities, is being taken up in Pennsylvania and New Jersey in a rather vigorous manner, due to the laws which are now on the statute books giving certain agencies the power to act in the case of industrial pollution. In Delaware, except for those streams which are used as a source for public drinking supplies, it would be necessary that a more effective stream pollution bill be passed.

It is hoped that the interest which has been shown in the need for remedial measures in the last sixty days will further increase the possibilities of the passage of an adequate stream pollution bill with sufficient powers and financial assistance so that a study can be made of this program.

As a result of a special appropriation made to the State Board of Health, a preliminary study of the streams and other bodies of water in this state will be made during the coming two years and a report submitted to the State Board of Health with recommendations for remedial measures and the possibilities of a broader law covering the pollution of the streams and other bodies of water.

An attempt will be made to determine the amount of organic and other wastes going into the streams from both municipalities and industry and, by a series of chemical analyses, an attempt will be made to translate all such wastes into terms of population load.

In many states, thousands of samples have been collected and the bacteriological oxygen demand test made, which is a yardstick which can be used to measure human wastes as well as industrial and other wastes. In this way the total amount of wastes the stream is called upon to care for can be fairly well gauged, assuming, of course, that the measurement of the actual volume of waste water contributed can be measured. The volume of waste water multiplied by the bacteriological oxygen demand factor will give these estimates a meaning which later can be translated into the type of treatment plant that should be required so that the industry or municipality in question can do its fair share in helping to preserve the streams and other bodies of water in this state.

Present thinking on the control of streams is to assume that a stream can assimilate a certain amount of wastes but only under conditions where abuses do not occur or the stream is not despoiled for the uses which are most indigenous to that particular area.

The states of Maryland and Virginia are making similar studies of their streams, as are many other states that are awakening to the fact that stream pollution is a problem of concern to the individual, the municipality, industry, the state, and the nation.

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(1) The New York City Board of Water Supply and the City of Port Jervis have entered agreement. The plans are approved and legal requirements have been met. Bids for construction of the plant will be received shortly.

(2) There is no recognized sewerage system in Hancock and Belvidere. However, the New York and New Jersey Departments of Health have investigated conditions and sewerage and sewage treatment will be required.

AMBULATORY TREATMENT OF SYPHILIS WITH PENICILLIN IN OIL AND WAX

WINDER L. PORTER, M. D.,*
Dover, Del.

It is now well recognized that penicillin is an effective drug in the treatment of syphilis. However, many months must yet elapse before it will be possible to delimit its sphere of usefulness with any certainty. Neither is it possible at this time even to intimate what will prove to be the most satisfactory preparation of the drug, the total dosage needed, nor the optimum period within which this dosage should be administered. Despite these vast gaps in our knowledge, there emerges from the fog certain situations where it appears most proper to employ the drug in some form.

It has been the experience of this unit that the majority of its syphilis patients never complete adequate treatment when the standard alternating courses of arsenicals and heavy metals are employed. Actually, less than twenty per cent ever receive optimum recommended treatment. Reports from states possessing facilities for hospitalization of syphilis patients for rapid treatment indicate that from ninety to one hundred per cent complete the treatment schedule outlined. This must become an important consideration in our selection of a treatment regime, for we can ill afford to cling to a system whose success is predicated upon regular continuous treatment that seldom is maintained, when another perhaps less effective system has the advantage of far greater acceptability to the patient. Since facilities in Kent County permit hospitalization of only a small number of patients for anti-syphilitic treatment, a program has been undertaken for ambulatory treatment using calcium penicillin in peanut oil and beeswax.

During the current year, some 87 patients have been treated in this manner, receiving treatment on 6-10 successive days, omitting Sundays. 33 patients were scheduled to receive 600,000 units daily for 6 days. Of this number, 31 completed the schedule, one missed the last day, and treatment was completed at home for one patient where onset of labor and delivery of an apparently non-syphilitic infant supervened after the third injection. Of 36 patients whose treatment was to span 7 days, 35 completed the course, while one failed to report on the last day. One patient was asked to report on 8 successive days and did so. 17 patients were scheduled for treatment over a ten-day period, the daily dose to be 300,000 units except on the 6th day (Saturday) and the last day when double portions were to be given, thus totaling 3.6 million units. 12 patients completed this schedule, 3 missed one day in the course and came an extra day to compensate for this, while two patients reported on 9 days only. Thus of the group, 79 (91%) completed the treatment planned, another 4 received treatment on an extra day compensating for one lost, and another completed treatment at home. With the exception of two children who received 1.8 million units, every patient received in excess of 3.0 million units of penicillin.

Considerable variation was noted in the reaction produced by different batches of penicillin. One series progressed with little complaint about local soreness, while nearly every patient in another series registered complaint, and treatment of 3 was interrupted for one day because of soreness. One patient on the 10-day schedule developed severe urticaria on the 5th day but was enabled to complete treatment by simultaneous administration of benadryl by mouth. Withal, there is remarkable contrast in the attitude of the patient towards reactions experienced. Many of these patients had been delinquent from standard treatment because of unpleasant experiences during the course, but were now willing to endure discomfort and inconveniences which they knew would be short-lived. Undoubtedly we have in the past failed to appreciate just how the social, economic and aesthetic life of the average patient is disrupted by antiluetic treatment. These disruptions do not appear nearly so oppressing when treatment is telescoped into a brief span.

We realize that it would be valuable if it were possible to report upon the effectiveness of the treatment given, although the schedules used are acceptable in accordance with present knowledge. However, no valid conclusions can be drawn because in most instances the situation is complicated by the varying amounts of standard treatment received prior to penicillin, and because most of the cases were in the latent stage. Effort is being made to follow as many as possible with periodic quantitative serologic tests. Actually, nonetheless, the goal for which we are striving is to develop an optimum schedule so that the matter of follow-up can be relegated to a voluntary basis, releasing the nurse's time for more pressing duties. It does appear that treatment with a delayed absorption medium of this type will be more acceptable if satisfactory treatment can be accomplished within one week.

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* Clinician-Consultant, Delaware State Board of Health.

Summary and Conclusions

Penicillin in oil and beeswax has been given on an ambulatory basis to 87 patients, with more than 90% completing the course outlined and with all receiving a satisfactory total dosage. This treatment has proved to be a valuable aid where hospitalization for aqueous penicillin treatment was unobtainable. While clinical effectiveness of the treatment remains undetermined, it is appealing from the standpoint of patient acceptance. It has become our treatment of choice in the following situations:

1. Infectious cases for whom hospitalization cannot be secured.
2. All pregnant women for whom antiluetic treatment is recommended.
3. Patients unable to withstand standard treatment, because of treatment reactions, poor veins, etc.
4. Patients for whom arsenical treatment is deemed unwise, particularly those with tuberculosis, hyperthyroidism or cardiovascular disease.
5. Patients in all stages of the disease who are irregular in attendance for standard treatment and whose total treatment does not approach minimum adequate standards.
6. Migrants, prisoners and others who will be subject to supervision for only a short time, but who remain a menace to public welfare until adequately treated.

''Rapid Treatment on an Out-Patient Basis,'' by Dr. C. R. Hayman, a further study, will appear in the October, 1947, issue of the Journal of Venereal Disease Information of the U. S. Public Health Service.

VITAL POINTS OF THE PREMARITAL LAW

R. D. Herdman, B. S.,*
Dover, Del.

On July 1, 1947, an Act providing for an examination prior to the issuance of a marriage license became effective. This law provides that every person applying for a marriage license in the state of Delaware shall file a certificate from a physician stating that the applicant has been given a physical examination including such serological tests as may be necessary for the discovery of syphilis. This certificate shall state that in the opinion of the physician the person is not infected with syphilis, or if so, is not in a stage which is communicable to the marital partner. Examinations also may be made at the Health Centers of the State Board of Health and city of Wilmington.

The serological blood test and such examinations as may be made for the discovery of syphilis must be made within 30 days prior to the issuance of the license.

Certificate Forms

Each physician was mailed a few certificate forms. Others may be obtained from either the Delaware State Board of Health Laboratory or other laboratories that are certified to perform these tests. After the laboratory has completed the serological test on the sample of blood, it will make a confidential report to the physician, giving the results of the test. It will also send the physician a certificate form, certifying that standard serological test has been performed on such a date giving the full name and complete address of applicant. This portion of the certificate must be signed by the person authorized to sign the report from that laboratory.

A few procedures for the physician to keep in mind are:

1. Be sure to designate on the laboratory request slip when sending a specimen to a laboratory that this is a premarital test. Failure to do so will produce unnecessary delay.
2. Report to the laboratory the complete name and address of person for whom test is made.
3. Complete the certificate which the laboratory returns with the blood test report, have applicant sign it in your presence, and give the form to the person examined.

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* Director of the Laboratory, Delaware State Board of Health.

Questions and Answers on the Premarital Law

Q. Must both parties contemplating marriage have a blood test and a physician's certificate before a marriage license can be issued?

A. Yes.

Q. Who can make this examination?

A. Any physician licensed to practice medicine within the state of Delaware or any state or territory of the United States; also, commissioned medical officers of the United States Army, Navy, etc.

Q. Does the examination include a standard serological test?

A. Yes.

Q. Do the results of the laboratory test appear on the certificate that goes to the Clerk of the Peace, or Justice of the Peace, who issues marriage licenses?

A. No. Only a statement that a blood test has been made.

Q. What laboratories may make these tests?

A. Delaware State Board of Health Laboratory, Delaware Hospital, Memorial Hospital, St. Francis Hospital, Wilmington General Hospital.

Laboratories approved outside of this state are:

State Department of Health laboratories
United States Army and Navy laboratories
United States Marine Hospital Laboratory at Staten Island
United States Public Health Service laboratories
District of Columbia Laboratory
City of New York Laboratory.

Q. What serological tests are accepted?

A. The Kolmer, Kahn, Kline, Eagle, Mazzini, and Hinton tests.

Q. How long will it take to receive report from the State Board of Health Laboratory?

A. If specimen is marked "Rush," it will be reported with certificate form the same day it is received. If not marked "Rush," it will be reported by mail either on Tuesday or Friday.

Q. Must doctor enclose certificate with specimen of blood?

A. No. He should indicate on the slip that the blood is for a premarital test. The laboratory will return a report to the physician submitting blood test. Accompanying this report, a Delaware certificate will be sent consisting of:

(a) A statement by the director of the laboratory that the blood has been examined.

(b) A blank to be filled in and signed by the doctor stating that he has performed an examination and that in his opinion the applicant is not infected with syphilis, or if so, is not in a stage which is communicable to the marital partner.

(c) The applicant also signs the certificate in the presence of physician.

Q. When must the application for a marriage license be made?

A. Within 30 days after the date of taking the blood test.

Q. Can a person infected with syphilis marry in Delaware?

A. Yes, if he is not in a stage which is communicable to the marital partner.

Q. If one or both of the parties for a contemplated marriage live outside of the state, can he or she, or both, be examined outside of the state of Delaware?

A. Yes. Certificate forms provided by other states having comparable laws will be accepted for persons who have been examined and who have received serological tests for syphilis outside of the state of Delaware, provided such examinations and serological tests are made not more than 30 days prior to the issuance of license.

Q. Will certificates provided by the U. S. Army, Navy, or U. S. Public Health Service be accepted for military personnel?

A. Yes, provided the certificate is signed by a commissioned medical officer and serological test is performed not more than 30 days prior to the issuance of license.

Q. Will Delaware's certificate form be acceptable in other states having comparable laws?

A. This will be subject to the state's interpretation. It will be advisable to inquire from the State Health Department of the state concerned regarding its acceptability.

Highlights of the Marriage Laws of Delaware

To marry in Delaware without the consent of parents, the male must be 21 years old and the female must be 18 years old.

With consent of parents, the male must be 18 years old and the female 16 years old.

96 hours must elapse between the issuance of the license and the performance of the marriage ceremony for non-residents.

24 hours must elapse between the issuance of the license and the performance of the marriage ceremony if one or both parties are residents.

THROUGH FOOD

Mary T. Davenport,*
Dover, Del.

We claim no special charms for ascorbic acid nor calcium. However, the great number of cases of below optimum health and vitality among people on nutritionally inadequate diets, continues to amaze us. At the same time, the improvement in the cases in which we have been able to alter patterns of eating, is fuel to our torch to investigate the food habits of more and more people.

In three years of association with tuberculosis it has been difficult to find a patient with an adequate diet at the time of diagnosis of the disease. Improper diet cannot cause tuberculosis nor can optimum diets cure it. However, in the prevention and cure we feel that food is a most important side of the triangle of which rest and fresh air make up the other two sides.

Wide deviation from normal weight should be regarded as a symptom not an inheritance. Here again, patterns of eating and, in the case of the underweight person, relaxation must be altered. Dr. H. C. Sherman states, "Keeping in mind therefore that sudden fluctuations of a few pounds do not call for any change of plan, and that any weight-reduction plan should aim not at spectacular results but at steady moderate progress, it is well to deduct about 500 calories from the daily intake which would keep the body weight constant. This withdrawal from bodily stores of 500 calories per day or 3500 calories per week will normally mean the burning-off of about 380 grams of actual fat. And this will mean a reduction of body weight by about one pound of adipose tissue: for adipose tissue is about four-fifths actual fat and about one-fifth water." It appears that in weight reduction a minimum of 900 calories is recommended, with 1200 being advantageous if normal activity is being pursued and anxiety is to be minimized.

Constipation, as prevalent as beetles in August, can be corrected in most cases by proper eating. The great advantage of food control here is that foods promoting good elimination are usually high in protective values. The repeated use of mineral oil should be discouraged for the reason suggested above and because of its absorption of fat-soluble vitamins.

Skin qualities remain one of our best signs of good nutrition. The disappearance of skin blemishes, improvement in color and turgor, may include the cure of some anemias, the improvement of digestion, increase in vitality and reduced susceptability to colds.

Recent investigations of the effects of folic acid have caused us all to take an increased grip on the need of diet evaluation. Yet we see, over and over, that food deficiencies rarely occur singly and that protein and fat deficiencies are as apt to occur as the over-popular avitaminosis.

Glance briefly at the rapid results of convalescent diets. If the fundamentals of the diabetic's diet were widely used we could expect a higher level of health for the average person. What better claim is there for our efforts than the appearance, the activity and low level of illness of our well-fed children? Good food alone will not solve the health problem but we stand firm in the belief that nutrition is basic.

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* Nutritionist, Delaware State Board of Health.

MOBILE X-RAY UNIT SURVEY

LAWRENCE D. PHILLIPS, M. D.,*
Marshallton, Del.

With the aid of monies appropriated by the Federal government and allotted per capita through the U. S. Public Health Association to state agencies, the State Board of Health purchased a 70 mm. mobile X-ray unit.

The purpose of this unit is to further aid the tuberculosis control in Delaware by x-raying high school, colleges, and industrial groups who do not have x-ray facilities. This unit during the past year has served all sections of the state. The recipient, school or firm pays no fee for this service.

To date, 14,701 individuals have been x-rayed. The following table summarizes the findings of these cases; the figures have been broken down into school and non-school groups. Age, color and sex have not been tabulated in this article.

	Companies	Schools	Total
Total No. x-rayed	8078	6623	14,701
Calcium deposits in hilus	163	163	326
Pulmonary Nodules	724	406	1,130
Tuberculosis—Minimal—Stable	55	10	65
Unstable	5	1	6
Tuberculosis—Mod. Adv.—Stable	20	4	24
Unstable	3	2	5
Tuberculosis—Far Adv.—Stable	1	0	1
Unstable	2	0	2
Disseminated Calcified Nodule	23	7	30
Enlarged hilus shadow	9	10	19
Thickened plura	14	4	18
Salients	7	1	8
Silicosis	6	0	6
Pulmonary Mass	5	0	5
Agyzos Lobe	6	13	19
Foreign Bodies	4	0	4
Questionable Aneurysm	6	0	6
Non-tuberculosis Basal lesions	205	90	295
Enlarged or abnormal heart shadow	146	44	190
Ribs—cervical	25	35	60
Ribs—Bifurcated	26	33	59
Ribs—Fused	7	17	24
Ribs—Bony spur	5	5	10
Ribs—Fractured or Resected	15	2	17
Ribs—Absent	2	1	3
Ribs—Poorly developed	29	18	47
Spine—Curvature and Scoliosis	46	29	75
Spine—Probably Potts	8	6	14
Dextro Cardia	2	0	2
Thoracoplasty	1	0	1
Probable lung cyst	2	0	2

On tabulating the findings, the pulmonary nodules and hilus deposits, if in the same individual, were counted as one, the nodule taking precedence over the hilus findings, and adult tuberculosis over all other findings. However, a parenchymal and a non-parenchymal finding, such as nodule and abnormal heart shadow, were both counted in the same individual.

Four of the pulmonary masses were semicircular densities off the mediastinal shadow, and thought not to be an aneurysm, while the other was in the lung field.

Foreign bodies were probably small fragments of shrapnel or lead pellets.

Under the non-tuberculous basal lesions is grouped diaphragmatic adhesions, obliterated costo-phrenic angles, plaques and increased trunk markings.

Under spine is grouped what were thought to be abnormal curvatures, 14 of which appeared to be Pott's disease.

The adult tuberculous lesions were checked with 14 x 17 films before a definite opinion was given, while the other tabulations are made directly from the 70 mm. readings.

The percent of unstable adult-type lesions was small, being 1:808 among the companies, and 1:2208 in the schools.

The number found and also the percentage would have been higher had all the rechecks been made; to date, 197 have been rechecked out of 318 requests. The ones who have not been rechecked on the 14 x 17 film have not been tabulated.

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* Superintendent, Brandywine Sanatorium.

TEN THOUSAND MORE CHILDREN FROM 1-6

CECIL A. MARSHALL, B. S.,*
Dover, Del.

Since the beginning of World War II, the countries of the world spared appreciably from civilian bombing destruction have noted increases in their population above war losses. The United States is a notable example of a country whose population growth made a definite spurt during the war period. The birth rates in the years 1941-1946 were highest in more than a decade. The number of children born in these 6 years exceeded the total for any comparable period in the history of our country. In Delaware for these years we note an increase of more than 1500 per year over that normally expected. The expected number being the mean number for the five years prior to 1940.

At the same time, the civilian death rate dropped to the lowest level on record. For a number of years the death rate in Delaware has been 12.6 per 100,000 population, while during the war it dropped below 12. This excluded military casualties.

From the standpoint of the balance of births and deaths during the war years our state and country presents a very favorable picture. Because of a jump in the birth rate and a decline in the death rate, the United States showed a sizeable increase in population over and above its direct military losses.

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* Vital Statistician, Delaware State Board of Health.

The excess of births over deaths from 1941 to 1945 amounted to 7,750,000 in the United States as compared with 5,200,000 in the preceding 5-year period. For the years 1940 to 1946 we may consider that the phenomenon as a result of man's conflicting nature has produced for our state 10,000 births net above expectations of what we consider a normal period. In our state we recorded an average of 4,246 births a year for the five-year period prior to the beginning of World War II. During the seven years mentioned, 1940-1946, 40,681 births were recorded which when averaged gives a figure of 5,812 per year. This figure is 1,566 per year more than that normally expected. For the years since 1940 a total of 10,962 births would be registered. That is, of course, not excluding infant mortality. It is to be noted that during 1946, 6,959 births were recorded which indicates a natality rate of 24.5 per 1,000 population for this state. From the table of Births and Rates, we can see that we have not had as many births in Delaware for any previous year, nor had the rate reached this peak. These same forces of operation on a national scale because of a marked upswing in the birth rate will result in an increased number of children under 15 years of age over that of 1940. This is in sharp contrast to the experience from 1930 to 1940, when the number under 15 years of age decreased 3,000,000.

BIRTHS AND BIRTH RATES FOR DELAWARE

Year	Number of Births	Average	Birth Rate Per 1,000 Population
1914	4853		21.7
1915	4850		22.8
1916	5118		23.8
1917	4984		22.9
1918	5099		23.3
1919	4893		22.1
1920	4834		21.7
1921	5063		22.5
1922	4656		20.6
1923	4559	1920-1924	20.0
1924	4612	4745	20.1
1925	4682		20.3
1926	4259		18.3
1927	4292		18.4
1928	4347	1925-1929	18.5
1929	4308	4378	18.1
1930	4509		18.9
1931	4218		17.5
1932	4202		17.2
1933	3972	1930-1934	16.1
1934	4006	4198	16.0
1935	4045		16.0
1936	3943		15.4
1937	4365		16.9
1938	4449	1935-1939	17.0
1939	4425	4246	16.7
1940	4608		17.2
1941	5094		18.9
1942	5665		20.8
1943	6299		22.9
1944	6037		21.7
1945	6019	1940-1946	21.5
1946	6959	5812	24.5

While the surge of births is only a temporary phenomenon woven about the change of social and domestic attitudes of a war time era, there is reason to believe that due to the high marriage rate the birth rate will remain relatively high for the next year or two, and it is equally reasonable to expect that soon thereafter the rate will return to the prewar level.

These increases have affected our public health activities in that the usual problems vaccinations, immunizations and child care health, pre-school examinations and the various services afforded the child of today by the health department have been on the increase and nursing activity for field and clinical service has been appropriately affected by the 1,500 more births per year.

Not the least affected will be our school populations, which numbered 40,134 from grades 1-12 during 1946. A count as of January, 1947, showed a school enrollment of 40,434 or an increase of 300 school children. Since births of 1941 were 486 greater than those of 1940, there would seem to be indicated that the 300 additional enrollment is the beginning of the noticeable increase in the lower grades of schools, and will be felt with increasing force in the years to come.

Studies of the Metropolitan Life Insurance Company state that "the number of children in the United States eligible to begin their formal education—the 6-year-old—has been increasing slowly in recent years and now totals nearly 2,500,000. Their numbers will grow to almost 2,900,000 two years hence. In 1950 and in 1951, however, the new contingents of 6-year-olds will fall off somewhat—reflecting the decline in the birth rate in 1944 and 1945—but they will then resume their increase until they number nearly 3,300,000 in 1953. The latter figure is 40 percent higher than that of 1945.

Not only the beginners, but the elementary school population as a whole—those 6 to 13 years of age—will grow very considerably in the years ahead. It is expected that this group of children will increase in number annually from the present figure of about 18,200,000 to more than 23,400,000 in 1956.

The number of children eligible to enter high school will decrease this year and next, but thereafter the trend will be reversed as increasing numbers of children attain age 14. From an estimated 2,200,000 in 1949 these children may be expected to grow almost without interruption to more than 3,200,000 in 1961. This increase will parallel the upward trend for the 6-year-old, but with a lag of 8 years. Thus, in 1953, when a peak of new admissions may be expected in the elementary schools, those eligible for high school will have increased by only 6 percent as compared with the figure of 1945. Thereafter, however, the number of children attaining age 14 will increase rapidly up to 1961, when there will be almost 50 percent more of these children than there were in 1945.

As has been stated, in due time the birth rate will level off and subsequently the school population will return to its present level, but in the meanwhile it is clear that there will be a marked increase in the school-age population in the years immediately ahead, and that the situation urgently calls for planning along practical lines in order that adequate provision be made for the education of these children. This is particularly necessary in areas where schools are already overcrowded and where, even now, there is a shortage of teachers. At the same time, there is urgent need for expanding the facilities and personnel concerned with promoting the health, safety, and general welfare of American children. To lay a sound foundation for the future welfare and security of our nation, we must build up the physical and mental health of our young.

CONVALESCENT CARE AS A MEANS OF REHABILITATION

EUNICE USHER, M. S.,*
Dover, Del.

The expansion of the services of the Children's Beach House at Lewes this last year made it possible for a group of children being followed by the Services for Crippled Children of the State Board of Health and the Alfred I. duPont Institute, Wilmington, to receive convalescent care. What did this experience mean to the children and their parents?

First of all, we see that convalescence has been defined broadly, as a process through which the child is helped to regain his optimum health and independence so that he can take part in community life. Since individuals react to illness according to their own particular pattern of behavior, we need to consider the physical, social, and emotional factors affecting the child. The goals of convalescent care have been aptly summarized by Dr. Nelson as being:[1]

1. The achievement of maximal health for the particular child.
2. A realistic acceptance by the child of his physical limitation and an understanding of his illness.
3. The cooperation and understanding of the child's family about his illness and future needs.
4. The development of the child's independence and his belief in his abilities.
5. The increased understanding of the community about the needs of the child.

When this type of care is necessary for children being followed through the Services for Crippled Children the plans are made jointly by the Orthopedic Consulting Surgeons, the A. I. duPont Institute, the Public Health Nurse, the Medical Social Consultant, the Speech Correctionist (if speech is involved), the Children's Beach House, and the patient and his family. This team has conferences at intervals to review the progress of the patient and to make plans for his future care.

Children's Beach House follows the recommendations of the referring physician, who maintains the medical responsibility for the patient. The Beach House provides the services of a staff physician and a staff dentist, offers schooling, and gives the child an experience in group living in which independence and creative play are encouraged.

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* Medical Social Consultant, Delaware State Board of Health.

[1] Nelson, Waldo E.: "Medical Aspects of Convalescent Care," Convalescent Care for Children. Chicago, 1946, p. 35.

Since September, 1946, nine children have been referred to and accepted by Children's Beach House. In addition, one child with a non-orthopedic condition was referred to his own physician who arranged for his admission to Children's Beach House. The diagnosis of these youngsters are as follows: cerebral palsy 5; old poliomyelitis, post-operative 1; osteomyelitis 1; cleft palate 1; malnutrition 1; undiagnosed condition of hip 1. The following were the reasons for referral to the convalescent home: family situation complicated by illness, 1 post-operative care until ready for next operation, 2; lack of schooling, need to learn to be independent and to get on with children, 4; family unable to provide care and no foster home available, 2; and child unable to take full activity and in need of study, 1.

Now we may ask whether or not we achieved the goals which were mentioned. First we spoke of the attainment of maximal health for the particular individual as one of our objectives. A social worker can only say that the children's health has improved and in some instances it has been possible to discontinue medication for muscle relaxation.

Next we mentioned the need for the child to understand his illness and to accept his limitations. The friendly, patient atmosphere of Beach House has helped the children lose their self-consciousness and learn what are their skills. For instance, Tommy, whose diagnosis is cerebral palsy, used to say "No" in response to all questions, had finicky food habits, wanted extra affection and attention, and was dependent on his family. Now, a year later, Tommy has forgotten the use of the word "No," eats everything with gusto, does not seek extra attention, and refuses to let people help him. This change has come about as Tommy realized that he had ability, could carry on despite his awkward gait, and could compete with physically normal boys. He rides a bicycle better than several of the physically normal boys and is clever with the erector set. Mary could not see why she was not allowed full activity when no one could tell her what was wrong with her hip. She had been admitted to the hospital twice and now convalescent care was necessary. Mary, a shy, withdrawn youngster, spent some time getting used to Beach House. She began to improve when she was allowed to help with a three-year-old boy. Finally on a visit to her own home she asked her family about her hip and was able to say how she felt. Once these doubts and fears had been brought out into the open and discussed Mary improved and had a better time with the other children.

The cooperation of the parents does play an important part in the child's acceptance of care and his ability to profit from experience. One family, whose only son Paul was to be admitted to Beach House spent a month getting him used to the idea of going away. He saw the clothes being made for his trip, knew why he was checked by the opthalmalogist, and chose those toys and victrola records which he wished to take with him. Thus when Paul's parents got ready to leave Beach House, he hardly had time to kiss them good-bye. Another boy, Jerry, found it hard to get used to being away from home where he had been the center of attention and it was equally difficult for his family to accept the separation. Several weeks went by before Jerry understood why he was at Beach House and before he entered into group activities with gusto. His parents helped him by talking to him and letting him know that he was not forgotten. Jerry's parents and grandparents were important guests at his birthday party. Since the parents share in the activity of their children while they are at Beach House it is not as hard for them to get ready to have the children come home. Several parents have spoken about how much it has meant to them to have their child accepted by a group and to learn what their child can do.

Betty had lived in about ten different homes during the year and a half prior to her admission to Beach House. She was evidently beginning to wonder if anyone really cared about her, as she stopped trying to work with the speech correctionist and the school teacher, and just had no ambition. She was cautious and fearful at first in this new home and played by herself for awhile. The efforts of the other children to include her in their games and the patience of the staff finally succeeded in showing her that she was wanted and was not a forgotten or neglected little girl. Now Betty's gay laugh and sparkling eyes have returned and she wants to learn new things.

Since the use of the convalescent home has been over such a short period of time it would not be fair to say whether or not the communities from which these children come have changed their attitudes and feelings about children with physical limitations. The test of this will come when the children are home. It is interesting that one of the mothers brought a number of townpeople to Beach House as they felt she was neglecting her son. The obvious improvement of the youngster made the townspeople feel that the boy should stay at Beach House. It is hoped that towns and schools will want to develop more resources for these children when they see what can be done. Maybe some foster parents can be found; perhaps special education facilities will be developed; and, hopefully, communities will make it possible for all individuals to develop their own particular abilities in order that they can take their part in the life of the community.

Thus we see that the experience of group living at Children's Beach House has helped these children accept their illness, become independent, and encouraged them to enter into the life of their family and community. The State Board of Health hopes to be able to continue referring children to Children's Beach House and to include convalescent care in the program of the Services of Crippled Children of the State Board of Health.

REFERENCE

Convalescent Care for Children, The National Society for Crippled Children and Adults, Inc. Chicago, Illinois, 1946.

INFANT MORTALITY PROBLEMS

Floyd I. Hudson, M. D., M. P. H.*

Dover, Del.

Advancement in medicine and science over the past few decades has pointed out ways and means of reducing mortality and morbidity among all peoples. In the field of maternal and child health there is no greater example of this reduction than that shown in the decrease in infant and maternal mortality figures since the close of World War I. A recent report of the U. S. Children's Bureau demonstrates progress throughout the nation during the first 10 years of the Social Security Program. In this report it is pointed out that the infant mortality rate has been reduced by nearly one-third and the maternal rate more than one-half during the period. Delaware has been receiving grants under the Social Security Program since its inception.

In Delaware let us examine some of the facts about deaths of infants under one year of age. In 1920 there were 769 deaths in this group with a rate of 104 deaths for every 1000 babies born alive. In 1946 there were 201 deaths and a rate of 29.5 deaths per 1000 live births. Over these years this represents a saving of 507 lives in 1946 if the 1920 rate were still in existence. To better show the decrease in the infant and maternal mortality rates the following table is inserted:

Delaware Infant Deaths and Infant Death Rates—1930-1946 inclusive

Year	Births	Deaths	Infant Death Rate**
1930	4,509	349	78.
1931	4,218	352	84.
1932	4,282	287	67.
1933	3,972	238	60.
1934	4,006	244	60.
1935	4,045	269	66.
1936	3,943	254	65.
1937	4,365	290	67.
1938	4,449	236	53.
1939	4,425	196	44.
1940	4,607	230	50.
1941	5,094	220	43.
1942	5,736	260	45.8
1943	6,344	284	45.
1944	6,036	289	47.8
1945	6,019	227	35.
1946*	6,800	201	29.5

Delaware Maternal Deaths & Death Rates 1930-1946 inclusive

Year	Deaths	Maternal Mortality Rates**
1930	35	7.8
1931	30	7.1
1932	37	8.8
1933	29	7.2
1934	23	5.5
1935	24	5.9
1936	29	7.4
1937	18	4.1
1938	26	5.9
1939	20	4.5
1940	24	5.5
1941	11	2.1
1942	9	1.7
1943	15	2.3
1944	10	1.7
1945	18	3.0
1946*	6	0.9

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* Director, Maternal and Child Health and Crippled Children's Services, Delaware State Board of Health.

* The figures stated for 1946 are provisional.

** Infant and Maternal Mortality rates per 1000 live births.

Let us now consider where our attack on infant mortality has been successful so that we may determine where future effort should be applied to further cut down unnecessary deaths of infants born to the mothers of this state. Until recently, infectious diseases, such as diarrhea, pneumonia, whooping cough have taken the heaviest toll of infant lives. For example a comparison of the 1929 and 1946 figures in the table below are interesting.

CAUSE OF DEATH

Year	Infection	Prematurity	Congenital Mal-formation	Other
1929	173	77	21	79
1946	40	79	29	52

Deaths from infectious diseases have been reduced and in the light of our present knowledge it should be possible to nearly obliterate this cause of mortality. The way to do this is clear. The public health agency must continue and strengthen its efforts to educate parents, especially mothers, in proper sanitary measures to be taken in the care of their infants. These procedures must be stressed by physicians and nurses, checked and rechecked by public health nurses in their visits to these persons. The importance of early immunization against those diseases against which we have proven immunizing agents is a point to bring home to the mother. Last but not least, all hospitals must provide adequate nursery facilities and service in order that epidemics of diarrhea of the newborn may be averted. Only well planned nurseries, with strict and scrupulous service, which are conducted by specially trained personnel under qualified supervision can eradicate this disastrous disease. The answer to the infectious disease problem is prevention not cure. It is the real obligation of physicians and public health officials to see that every ounce of prevention against these diseases is used for the protection of our population.

Prematurity now assumes first place as a cause of death (see table above). In view of our present ideas it is a cause which is amenable to attack. Prevention of deaths from prematurity can best be accomplished through good prenatal care of all mothers. Attention to early examination by a competent physician is of prime importance. Frequent and adequate follow-up visits along with other considerations are required.

The insistence on an adequate diet for each expectant mother is a weapon beyond compare. The public health nurse and nutritionist cooperating with the obstetrician can do wonders by religious application of their efforts to make sure that each prenatal case has adequate and essential nutrients. Optimum nutrition of both the mother and her unborn child are a "must" never to be neglected or forgotten. The mental hygiene aspects of each case should be considered. In order to prevent mortality and morbidity from all causes it is obligatory that adequate medical care be available for every case and such care should include prenatal, delivery and postpartum service. The newborn child must also be provided with adequate medical care for at least the first year of life. No expectant mother should have to worry about the how, from whence and whereby such care is forthcoming. This is extremely important in preventing difficulties of a mental hygiene nature. Adequate medical care for the mother and child are inherent rights that belong to them regardless of economic status.

Children born prematurely for any cause have a good chance for survival with proper and diligent care. The place for good care of any premature infant is in a hospital that has a nursery designed, equipped and staffed especially for such care. When babies are born prematurely at home, incubators for prematures are available at the local health unit day or night. They should be secured at the earliest possible moment. Along with the usual measures necessary to insure life in any newborn child, the premature needs extra and expert care. The most important thing to do for a premature during and immediately after the delivery procedures are completed is to keep the body temperature at nearly normal. This is frequently forgotten. It must be remembered that slight chilling makes the difference between survival and death in numerous instances.

Recent experiments in the field of nutrition give us a valuable clue to further avenues of possible reduction of infant mortality and morbidity. Congenital anomalies, which are frequently a cause of death and more frequently a cause of disability or crippling, are being investigated by workers with interesting results. J. Warkany and his co-workers have reported on skeletal abnormalities in offspring of rats reared on deficient diets. Such diets were demonstrated to be related to riboflavin and vitamin D deficiencies. C. R. Noback and Kupperman reported on similar work on Wistar rats with equally astounding results. O. B. Ross and co-workers observed in the offspring of sows fed a deficient diet deformities such as clubfoot, webb-foot, shaking palsy. Richardson and Hogan have shown that 30 cases of hydrocephalus developed in 1756 weaned offspring from deficiently fed white rats, and no cases occurred in 1020 weaned offspring from like rats with liver fraction added to the diet.

These experiments to date do not indicate that there is any analogy in human nutrition. However, it is conceivable that under certain conditions of living, humans may be subjected to deficiencies of an essential factor or factors in the same fashion as these animals that developed so called congenital anomalies. The possibilities of nutritional effects on reproduction and development of the young in utero are tremendous. It is a point for further investigation. If the effect on human development in utero is at all influenced in the same manner as it is in the animal experiments described, then the medical profession and public health agencies will have another weapon which can easily be utilized in preventing a considerable amount of unnecessary crippling and death among infants.

For those who desire to check some of these animal experiments the following bibliography is furnished:

Congenital Malformations Induced by Maternal Nutritional Deficiency. J. Warkany, J. Ped. **25**: 476-480, Dec., 1944.

Diet of Mother and Hydrocephalus in Infant Rats. L. R. Richardson and A. G. Hogan, J. Nutri., **32**: 459, Oct., 1946.

Some papers of interest on abnormalities in animals. J. Warkany and R. Nelson: Anat. Rec., **79**: 83-100, Jan., 25, 1941; J. Nutri. **23**; 321-333, Apr., 1942; Am. J. Roent., **47**: 889,893, June, 1942; Arch. Path. **34**: 375-384, Aug., 1942. By Warkany and Schaffenberger: J. Nutri., **27**: 477, 1944. By Nowack and H. S. Kupperman; Proc. Soc. Exp. Biol. Medic **57**: 183-185, Nov., 1944. By O. B. Ross et al; J. Animal Sci. **3**: 406, 1944.

PHYSICAL THERAPY IN THE STATE CRIPPLED CHILDREN'S SERVICE

Mary L. McCarthy,*
Dover, Del.

Physical therapy may be defined as the treatment of disease or injury by means of heat, cold, light, massage, therapeutic exercise, water, and electricity. In the State Crippled Children's Service of Delaware, the modalities most frequently employed are: thermotherapy, massage, therapeutic exercise and hydrotherapy. Equipment consists of infrared lamps, a portable mirror, walking aids and Montessori boards. In some situations it becomes necessary to improvise equipment.

When physical therapy is prescribed in crippled children's clinic definite instructions are given by the clinic orthopedic consultant as to the type of treatment to be used. Previous to making the first home visit to a new patient, conferences with the medical social service worker, the nursing supervisor, the nurse in the community and the physical therapist are conducted, so that all aspects of the individual may be considered in treatment. These conferences also provide for a better correlation of the services offered to the patint.

In a typical home visit the treatment is carried out by the physical therapist and is demonstrated to the parent and the patient, in order that it may be executed daily until the time of the next visit. Some of the more common types of orthopedic conditions requiring physical therapy are; scoliosis, pes planus, poliomyelitis, obstetrical paralysis, cerebral palsy, torticollis, and poor posture.

Recently, with the assistance of school authorities and the school nurse a posture program was initiated in one of the schools in the lower part of the state. Eight children, four of whom are listed on the crippled children's register, are given treatment once a week. The procedure in admitting a child to this clinic for treatment of his postural defects is as follows: the school nurse and the physical therapist examine superficially a group of children and select those whom they regard as candidates for a more thorough examination in clinic. Then a visit is made to the home at which time the plan is explained, and it is suggested that if the parent is interested, he accompany the child to the next crippled children's clinic, where a complete examination is carried out by the orthopedic consultant and specific corrective exercises are recommended. The patient is photographed before the first treatment, for the purpose of conducting a comparative study after a series of treatments have been administered. The children are grouped according to their defects and exercises are demonstrated at school. These exercises are carried out daily at school under the supervision of the nurse. A weekly visit is made by the physical therapist for the purpose of giving direct service and also as a consultation period with the nurse. At a later date, the physical therapist visits the home of each child and the exercises are demonstrated to the parent.

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* Physical Therapist, Delaware State Board of Health.

At the present time this program has not developed to the extent where remarkable results can be observed. It is hoped that some time in the near future this posture clinic will be expanded not only in the school in question, but also to other schools throughout the state.

A STATE BOARD OF HEALTH NURSE PLANS HER DAY

Mary M. Klaes, R. N., B. S.*
Dover, Del.

Observe with me one of our thirty-three public health nurses as she plans her day's work. The first half hour or so she spends at her desk in the nurse's office of the County Health Unit to which she has been assigned, or if she is stationed in Wilmington, at her headquarters at the Health Center at 908 West Street. This half hour is a very important part of her day because wise planning of public health nursing time is most essential, especially now when there are so many calls on her time, and when here, as well as everywhere else, the shortage of nurse personnel is a fact as well as a byword.

First of all, the nurse consults the clinic schedule. She finds that today, Thursday, between 9 and 10 A. M. she is scheduled to assist the clinic physician in administering rapid treatment to a selected group of syphilis patients. Then between one and two P. M. she will conduct a child health conference. Here a volunteer aid will help her with weighing and measuring the babies while she has a conference with the mothers before and after the babies have been seen by the clinic physician. The nurse's aid also takes responsibility for setting up the conference and for putting away supplies after the conference. This helps to conserve our nurses' time.

Then the nurse looks at the call slips on her desk. Here is a birth notice sent in by a midwife. The nurse recognizes the new mother's name, Mrs. S, as belonging to a patient who had been attending the mothers' class conducted by the nurses in the clinic building. She must plan to make that the first visit today. It is important that midwife cases be visited by the public health nurses as soon as possible after delivery, as, not having the care of a physician, it is necessary to see if the mother and baby are doing well or if they need medical attention.

There is another call slip on the spindle on her desk. Dr. F has requested that the nurse visit the home of one of his patients to demonstrate how to prepare a certain formula for a three months old baby. Next, the nurse looks in her call file. She sees that Charles and Jane R, whose father is a patient in the tuberculosis sanatorium and who were at the tuberculosis clinic two days ago, are scheduled to have their tuberculin tests read today. She realizes that it would be best for her to plan to go to their home after 3 P. M. because the children will then be home from school and their mother will be home from work. The visit to read the tuberculin tests will also give the opportunity to discuss some nutrition information with the mother as well as the importance of early bed hour for the two young children. She also plans to advise the mother to return to chest clinic next month for her semi annual chest examinaiton.

In the call file there is also a memorandum to visit Mr. W who has not returned to the venereal disease clinic for his treatments, and who has failed to respond to the letter which was written advising his return to clinic. It may be possible that he is ill, or has moved away; at any rate she must try to contact him. Then there is also a memorandum in the call file to visit the J family. The nurse takes the J family folder from the file and reads that the baby has not been gaining weight and that several months ago Laura, age 3 years, a patient in the state crippled children's clinic, had been advised by the specialist, to be hospitalized for the correction of a congenital dislocation of the hip. To date the mother has not been able to accept this recommendation and Laura's father says he doesn't want to urge his wife to consent. Perhaps, he too, can't accept the need for treatment. While visiting this home for the purpose of helping the mother to carry out the doctor's recommendations for the baby who is not gaining, she must also try to help the parents to understand the importance of the early treatment of orthopedic defects. Today she will take one of those lovely new booklets which have been put out to show the facilities at Nemours. The pictures show the attractive rooms in the hospital and happy children. Perhaps that will help the parents to decide to have Laura undergo the recommended treatment or perhaps she can even arrange to have the parents go out to see the hospital before they decide.

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* Director, Division of Public Health Nursing, Delaware State Board of Health.

Here then is the sum total of what should be done today. The day just isn't long enough! Well today she has two clinics, tomorrow she has none, so perhaps she can shift some of the visits to tomorrow.

Now she makes out her daily work schedule sheet, a copy of which is left in the office:

8:30 to 9 A. M.—Office work.

9 to 10 A. M.—Assist in clinic.

10:15 to 12—Visits to Mrs. B and new baby, the midwife case, and the home of Mrs. K to demonstrate formula making.

12 to 1—lunch.

1 to 2 P. M.—Child Health Conference.

2:15 to 4 P. M.—A visit to Mr. R, the V. D. delinquent patient, and a visit to the home of the R's after 3 P. M. where she will check tuberculosis contacts and read tuberculin tests. Then back to the office to complete her records of the day's work.

She realizes that she has not time enough to plan the visit to the home of Mrs. J with its baby and crippled child. That will be put on the list for the very first thing tomorrow morning. She must remember, though, to take two copies of the Children's Bureau publication "Infant Care" with her today, a copy for Mrs. S the new mother, and one for the mother to whom she will demonstrate formula preparation. Oh yes, and she mustn't forget, she reminds herself, to leave at the school those pretty colored health posters illustrating the importance of milk in the growing child's diet. That won't take but a few minutes, she can do it today as she goes by the school on her way to the home of Mrs. K. She will plan to see the teacher for a longer time some day next week so that she and the teacher can arrange to show at the next Parent-Teachers' Association meeting one of the new health films which the State Board of Health has available in their film library.

MEDICAL SOCIETY OF DELAWARE

Delaware Academy of Medicine
Wilmington

Monday, October 13th

8:30 P. M.—House of Delegates

Tuesday, October 14th

10:00 A. M.—Scientific Meeting

12:30 P. M.—Luncheon by the New Castle County Medical Society (Wilmington Country Club)

2:00 P. M.—Scientific Meeting

6:30 P. M.—Subscription Dinner, Informal (Hotel du Pont)

Wednesday, October 15th

9:30 A. M.—Scientific Meeting

11:30 A. M.—Presidential Address
Election of President for 1948

1:00 P. M.—Luncheon, by the Medical Society of Delaware (Hotel Rodney)

WOMEN'S AUXILIARY

Hotel Rodney
Wilmington

Tuesday, October 14th

11:00 A. M.—Business Meeting

1:00 P. M.—Subscription Luncheon

2:30 P. M.—Panel Discussion

6:30 P. M.—Subscription Dinner, Informal (Hotel du Pont)

Wednesday, October 15th

11:30 A.M.—Presidential Address (Delaware Academy of Medicine)

1:00 P. M.—Luncheon, Guests of the Medical Society of Delaware (Hotel Rodney)

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PYRIBENZAMINE WHENEVER ANTIHISTAMINICS ARE INDICATED

Acute Urticaria. Pyribenzamine effective in control of itching; gives relief to about 80 per cent of all patients having acute urticaria.

Giant urticaria with large wheal formation. Pyribenzamine therapy reduces edema and formation of wheals in many of these patients.

The results of an accumulation of some 1,000 cases studied by 38 different investigators show that one of the greatest benefits of Pyribenzamine is in acute and chronic urticaria. An average of both types shows improvement in 76 per cent of all patients. Detailed information and samples of Pyribenzamine can be obtained by writing the Ciba Professional Service Division.

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Angioneurotic Edema
Vasomotor Rhinitis
Atopic Dermatitis
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PYRIBENZAMINE

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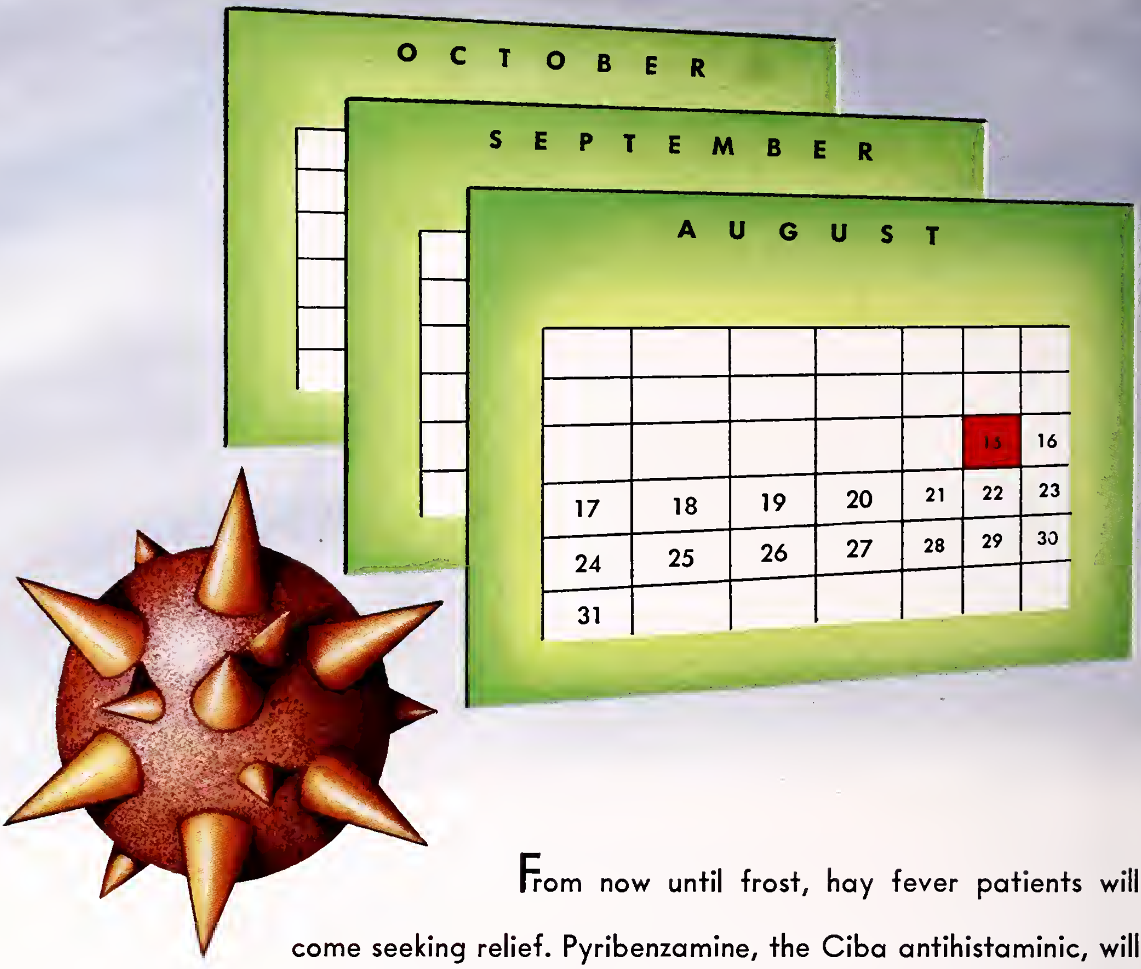
ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

CIBA PHARMACEUTICAL PRODUCTS, INC.
SUMMIT, NEW JERSEY



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COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION

Production and nation-wide distribution of Pyribenzamine have now been increased so that you can prescribe this drug for your hay fever and other allergic patients with assurance that your local pharmacist can supply it promptly.

SUPPLIED: Scored tablets of Pyribenzamine hydrochloride, 50 mg. Bottles of 50 and 500.

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SUMMIT, NEW JERSEY

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+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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Articles are accepted for publication on condition that they are contributed solely to this Journal. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

Changes in manuscript after an article has been set in type will be charged to the author. The Journal pays only part of the cost of tables and illustrations. Unused manuscripts will not be returned unless return postage is forwarded. Reprints may be obtained at cost, provided request is made of the printers before publication.

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Subscription price: $2.00 per annum, in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

Vol. 19 September, 1947 No. 9

Re: Poliomyelitis

The "epidemic" of polio which has been "raging" in Delaware for the past several weeks seems to be on its way out, to the hearty gratification of everybody. Just how big this epidemic actually was will never be known. The public health officials, with perhaps justified caution in the public interest, at first labelled as actual polio every suspicious case. It is now conceded that some, perhaps many, of these cases were *not* polio, yet the initial branding created a hysteroid atmosphere here at home, and one of great apprehension abroad. Against this situation some of our most competent private practitioners protested quite vocally; in rebuttal, the health officials threw at these protestants epithets that were at least undignified if not actually unethical. Result—a tension that needed only one more spark to cause an explosion.

Fortunately, the prudence that is the better part of valor began to show itself. Instead of announcing that "seven cases of polio were admitted yesterday" the announcement said that "seven suspects were admitted yesterday," which is precisely the way it should have been done in the first place. Later, the patients were checked by additional physicians, so that the diagnosis no longer devolved upon one man, which again is precisely the way it should have been done in the first place. Now that three days have gone by with no admissions perhaps the storm is about over. But there will be another year and perhaps another epidemic! There are some lessons to be learned from this one that should be put down in the book and memorized.

Fifty Bucks?

The physicians of Wilmington are receiving bills from the Clerk of the Council, in the sum of fifty dollars, for the annual medical license, due and payable not later than September 30, after which a 25% penalty is imposed. According to the public press of not so long ago it was expected that this outrageous fee would be halved. These latest billets doux show that the alleged reduction was merely a phantom. Who's kidding us—City Council or the news reporters? Yes, you guessed it.

S. B. H. No.

The text of this issue of The Journal is provided, for the 18th consecutive year, by the State Board of Health, following a custom that began in 1930, when The Journal was in the midst of Volume 2. These special articles have consistently maintained a very high standard, and the present issue is no exception. Our thanks to Dr. Cameron and his corps of assistants.

New Prices

Effective with the August, 1947, issue, the Publication Committee found it necessary to increase the price of The Journal to fifty cents per single copy and four dollars per year. This is the *first* increase since the New Series began in 1929. Everybody will understand the reasons why. The only criticism that could possibly be made is that it was not done two or three years ago.

Everett Reynolds, M. D.

Everett Reynolds, M. D., of New Castle, aged 47, died in the Memorial Hospital, Wilmington, on August 11, 1947.

Dr. Reynolds was the organizer and founder of the two-year-old New Castle Board of Health and was its executive secretary at the time of his death. Despite the advice of friends and medical associates, Dr. Reynolds continued to devote considerable attention to the affairs of the health board even after his serious illness.

Dr. Reynolds was born in Syracuse, N. Y., in 1900, the son of the late E. J. and Lillian Reynolds. He attended schools in Philadelphia and was graduated from Hahnemann Medical College in that city in 1928.

He came to New Castle in 1929 as an associate of the late Dr. Julius Dodd. Later he accepted a position with the State Board of Health in Sussex County, but returned to this city several years later to begin general practice.

Despite repeated efforts to enter a branch of the service during the war, Dr. Reynolds was not permitted to leave New Castle by the government and for some time was the only physician in the city. During this period he served a war-swollen population in addition to a half dozen local plants engaged in war work.

At the same time, he managed to serve in the State Guard and rose to the rank of major. He attended the last encampment of the wartime militia organization a year ago at Bethany Beach.

Until his recent illness he had served as city physician, was a member of the staff of the Memorial Hospital, and belonged to the Homeopathic Medical Society, the New Castle County Medical Society, the Medical Society of Delaware, and the American Medical Association.

He is survived by his 13-year-old daughter, Daintry, and a sister, Mrs. Bonita Snyder of Syracuse.

Funeral services were held on August 14 in Immanuel Church, New Castle. Interment was private.

BOOK REVIEWS

Rehabilitation Through Better Nutrition—University of Cincinnati Studies in Nutrition at the Hillman Hospital, Birmingham, Alabama. By Tom D. Spies, M. D., from the Department of Internal Medicine, University of Cincinnati College of Medicine. Pp. 94, with 50 figures. Cloth. Price, $4.00. Philadelphia: W. B. Saunders Company, 1947.

The monograph by Tom D. Spies presents the picture and the results of a study undertaken in Birmingham of a large group of nutritive "wrecks" who were rehabilitated through adequate nutrition, supplemented with synthetic vitamins. The author points out that as nutritive diseases require a long time to develop, recovery is necessarily slow and depends upon the reversibility of the changes produced during the period of nutritive lack. The signs and symptoms of the various deficiencies found in this group are clearly stated with case histories. Typical findings in Vitamin A, niacin, B1, B2 and Vitamin C lack are enumerated.

The principal point to remember and the one which the author stresses is that "Vitamins cannot take the place of a liberal, well balanced diet."

The monograph is well written and is recommended.

Experiences With Folic Acid. By Tom D. Spies, M. D. Pp. 110. Cloth. Price, $3.75. Chicago: Year Book Publishers, 1947.

This is an original and brilliant work detailing the author's experinecs with the new synthetic anti-anemic drug, folic acid. Dr. Spies covers the subject of hyperchromic anemias completely, beginning with the early use of preparations of liver and describing the advance in our scientific knowledge in the use of drugs up to the discovery of the Lactobacillus casei factor.

The author gives a detailed study with diagnosis and differential diagnosis and confidently describes his excellent results in the treatment of 218 patients with macrocytic anemia with folic acid. The cases included pernicious anemia, sprue, and the nutritional macrocytic anemias of pellagra and pregnancy. A word of caution is voiced in that although "folic acid will improve the state of the blood and prolong the life of a patient with pernicious anemia," the author "doubts if it will protect against the neural disturbances of pernicious anemia."

The work is all new and should be available to all practicing physicians.

Advances in Internal Medicine—Vol. II. Edited by William Dock, M. D., Long Island College of Medicine, Brooklyn, and I. Snapper, M. D., Mt. Sinai Hospital, New York City. Pp. 642. Illustrated Cloth. Price $9.50. New York: Interscience Publishers, 1947.

The second volume, like the first, consists of a collection of manuscripts on various pertinent and practical problems by authorities in their fields. The book is unique in its presentation in that it brings out the important points in advances of internal medicine by the civilian and military experiences of the various authors.

No internist can buy this book without being deeply interested in the majority of the subjects. Naturally, the interest varies according to the special hobbies of the reader. There is an especially good measure in this volume for the cardiologist; the chapter on "Interpretation of Ventricular Complex of the Electrocardiogram," by Dr. Frank Wilson, is especially timely and practical. However, various techniques for cardiac study and diagnosis are limited in their application to larger medical centers and hospitals. Yet, their worth is truly evaluated. Two chapters dealing with antibiotics are particularly interesting and make good review. Nutritional problems are discussed in two compositions and are especially timely. The presentation of the Rh factor by Dr. Weiner is particularly thorough. The remaining several chapters are all well presented.

In conclusion, the presentation is like an assembly of monographs which do not go into unnecessary or impractical detail. The book is one of the most valuable we have ever read of its type.

Advances in Pediatrics, Volume 2. Editorial Board: S. Z. Levine, M. D., Cornell University Medical College, New York; Allan M. Butler, M. D., Harvard Medical School, Boston; L. Emmett Holt, Jr., M. D., New York University, College of Medicine, New York, N. Y., and A. Ashley Weech, M. D., University of Cincinnati, College of Medicine, Cincinnati. Pp. 409. Cloth. Price, $6.75. New York: and Interscience Publishers, Inc., 1947.

The volume presents eleven personalized monographs, including such subjects as: Etiology of Congenital Malformations, Acute Infectious Lymphocytosis, Treatment of Purulent Meningitides, Chemotherapy, Atypical Pneumonia, Endocrine and Other Factors Determining the Growth of Children, Virus Diarrhea, Prematurity, and Prevention of Recurrences of Rheumatic Fever.

The information is clear and concise, accompanied by excellent figures, tables and illustrations. The specialist in pediatrics and the general practitioner will find it a most valuable addition to his library.

New and Nonofficial Remedies, 1947 containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1947. Pp. 749. Cloth. Price, postpaid, $3.00. Philadelphia: J. B. Lippincott Co., 1947.

Although the latest edition of New and Nonofficial Remedies has some eleven pages fewer than the 1946 book, its increase in size, due to the heavier paper used, and its change of color —dark green to bright red—combine to make a striking contrast with the earlier annual volumes. The book is now published by J. B. Lippincott and Company, though it is still issued under the direction and supervision of the Council on Pharmacy and Chemistry. Another innovation is the relegation of the statements of tests and standards to the back of the book, which makes the text more convenient and useable for the physician, for whom it is primarily intended. It is understood that supplements to the annual volumes will no longer be issued. The physician who is interested in current acceptances can keep track of these as the descriptions are published in the *Journal A. M. A.*, or may inquire about them by addressing the Council's office at A. M. A. headquarters. Several medical and pharmaceutical journals now carry lists of currently accepted products.

There appears to be no very extensive revision in the various general articles or chapter head discussions, although several new monographs have made their appearance and others have been revised to reflect current medical opinion. One notes the appearance of a new chapter, "Unclassified Therapeutic Agents," which includes the monographs on Gold Compounds and Iodine Compounds for systemic use. This is in line with the policy adopted some years ago of classifying accepted preparations according to pharmacologic action and therapeutic use.

Attention is called to the amplification and indexing of the section devoted to the statement of the Council's Rules. This should be of great assistance to manufacturers in the presentation of products for Council consideration and is no doubt inspired by the recent marked increase in the number of pharmaceutical concerns asking Council recognition.

The descriptions of some thirteen new preparations appear in this volume. This excludes, of course, brands or dosages of already accepted agents. Among those preparations noteworthy of mention are the pertussis vaccines and vaccines representing combinations of pertussis with diphtheria and tetanus organisms; the new histamine-antagonizing agent, Benadryl Hydrochloride Elixir (Diphenhydramine Hydrochloride Elixir); Furacin (Nitrofurazone) a new topical anti-infective agent; Streptomycin; Heparin Sodium; Parenamine, a new casein hydrolysate; Thiouracil, an antithyroid agent; Naphuride Sodium (Suramin Sodium) a new trypanocide; and Tuamine (Racemic 2-aminoheptane), a new vasoconstrictor. One notes the increasing appearance of generic designations in conformance with the revised Council's rules on acceptance of agents bearing protected or trademarked names.

New and Nonofficial Remedies remains a most valuable and authoritative compendium of modern rational therapeutics. With successive editions, it becomes more useful and accessible to the physician and to all those interested in the use, preparation, or manufacture of drugs.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1946. Cloth. Pp. 135. Price, postpaid, $1.00. Chicago: American Medical Association, 1947.

This volume was formerly of most interest to those who wished to know why the Council on Pharmacy and Chemistry had not accepted certain of the preparations it had considered. The reports were mainly those of rejection; though, through the years, the educational nature of the Council's work was attested by status reports on drugs, or therapeutic procedures, or preliminary reports on agents showing promise of usefulness but not yet ready for adoption by the general profession. In recent years, the tendency has been toward a preponderance of the educational type of report. In the present volume, both the condemnatory and the educational phases of the Council's work are represented.

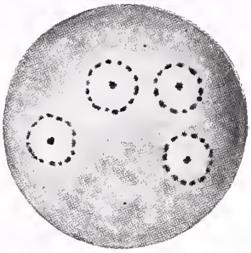
There are three reports of vigorous condemnation: first, the report on Cabasil, a curiously unscientific mixture whose exploitation for use in a multitude of diseases is aptly summarized by the sub-title of the report, "Quackery Unlimited;" second, the report on the pseudo-scientific Ethylene Disulphonate (Allergosil brand), a preparation of highly uncertain nature exploited to physicians for use in allergic conditions; third, Formula A-N-1, a joint report of the Council on Pharmacy and Chemistry and the Council on Industrial Health, concerning an expensive but poor substitute for aspirin and citrate of magnesia, cleverly promoted to industrial concerns for use in reducing absenteeism due to colds.

Among the status reports, the excellent article of Dr. Samuel M. Feinberg, "Histamine and Antihistaminic Agents," is probably most worthy of mention. Since its appearance, the Council has accepted for inclusion in New and Nonofficial Remedies, the two new agents of this class evaluated in the article, Diphenhydramine Hydrochloride, and Tripelennamine Hydrochloride (Benadryl Hydrochloride and Pyribenzamine Hydrochloride, respectively).

Pharmaceutical and scientific investigators, alike, will be interested in the informative report on the Council's new Therapeutic Trials Committee. Of special interest to manufacturers is a statement on the revised rules of the Council, though this exposition of the trends of Council policy is of concern to all who are interested in progressive rational therapeutics.

Attention is called to the several reports on the adoption of generic designations for drugs proposed or marketed under protected names. Not all such actions of the Council have been the subject of separate published reports; the recognized terms have appeared in the published descriptions of the drugs when accepted, and will be inserted in another Council publication, New and Nonofficial Remedies, as adoption of such designations for already accepted protected names proceeds.

AMEBIASIS



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1. D'Antoni, J. S.: Amebiasis, Recent Concepts of Its Prevalence, Symptomatology, Diagnosis and Treatment, Internat. Clinics 1:100 (March) 1942.

2. Manson-Bahr, P.: Some Tropical Diseases in General Practice, Glasgow, M. J. 27:123 (May) 1946.

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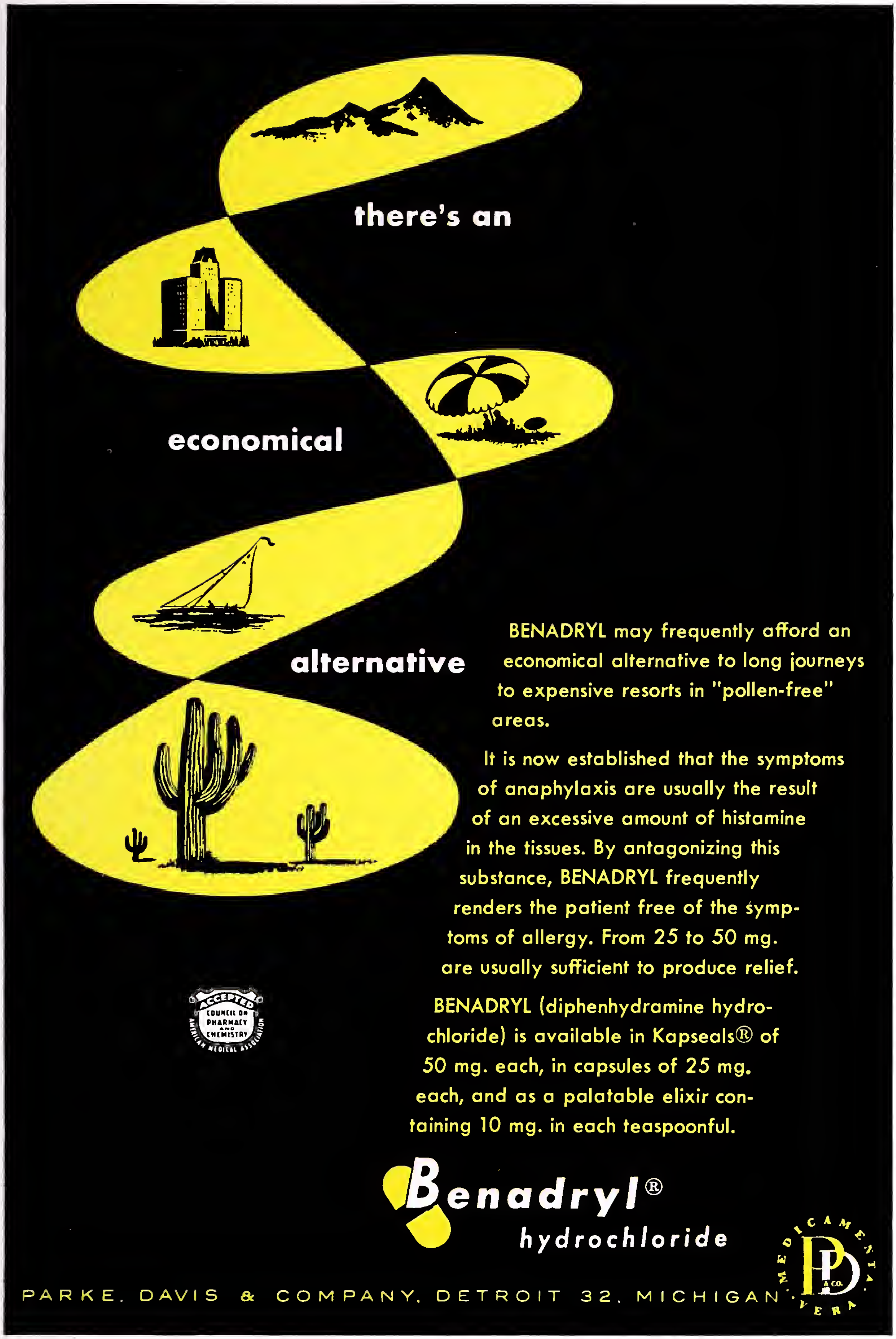

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VOLUME 19
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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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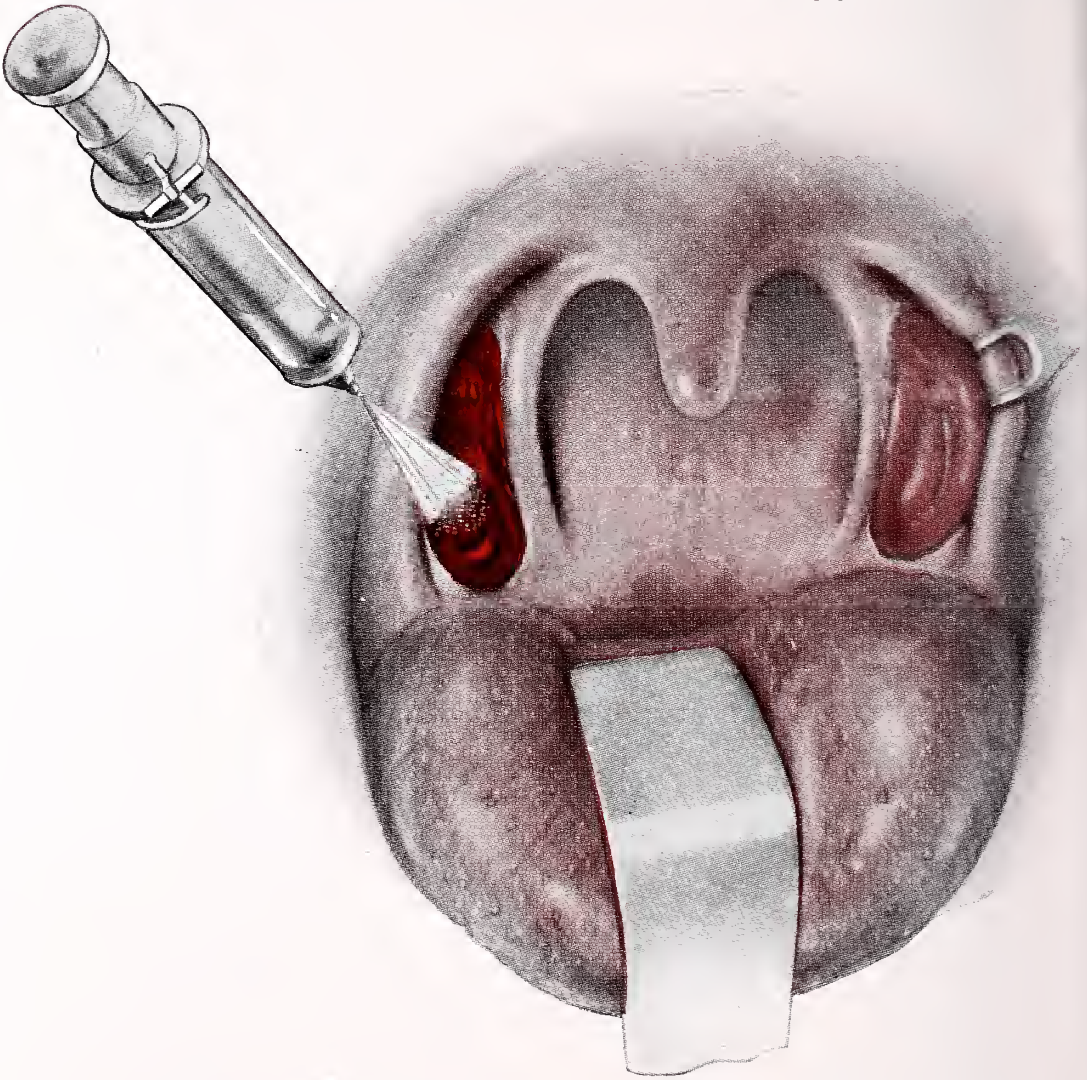

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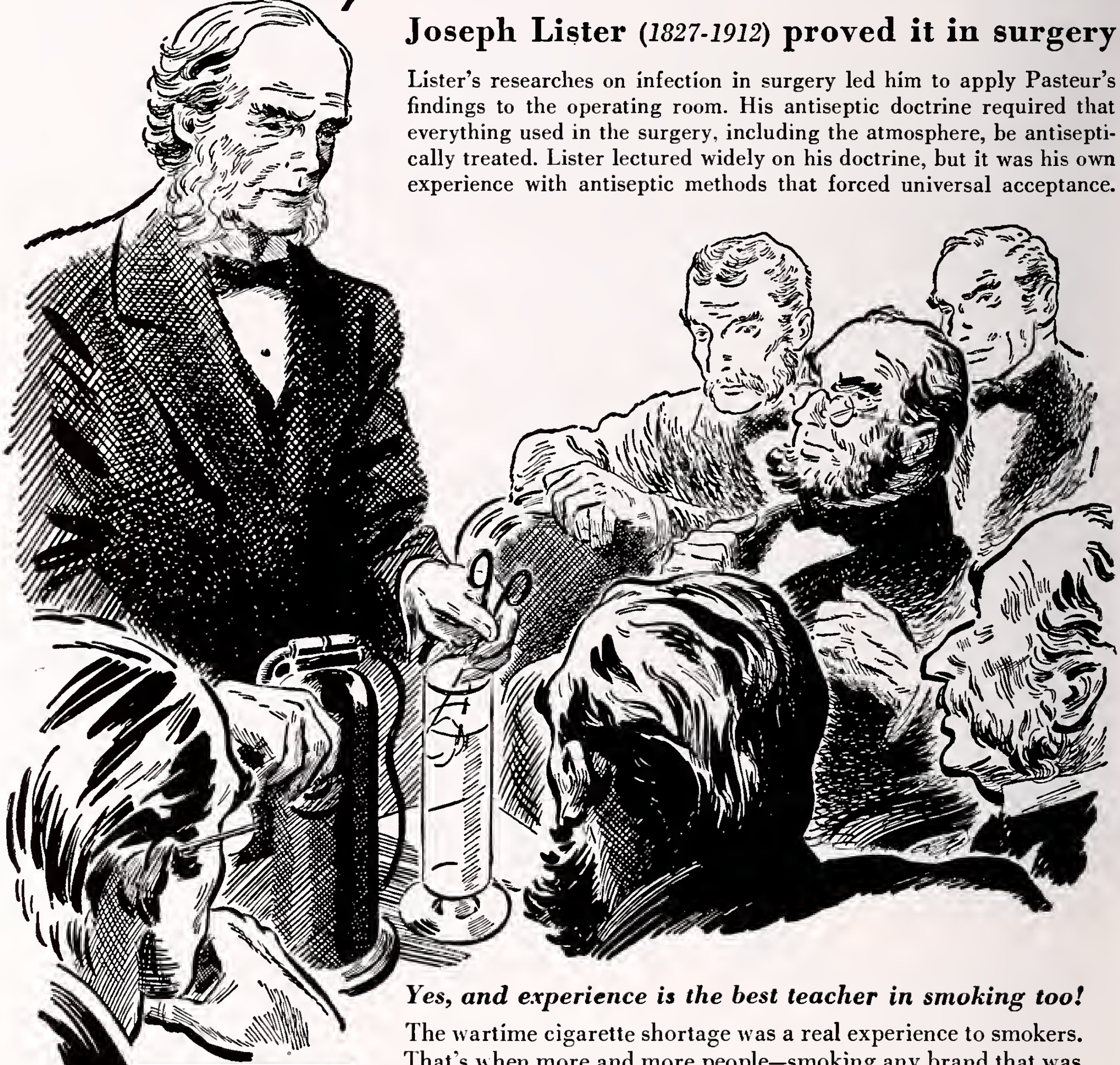

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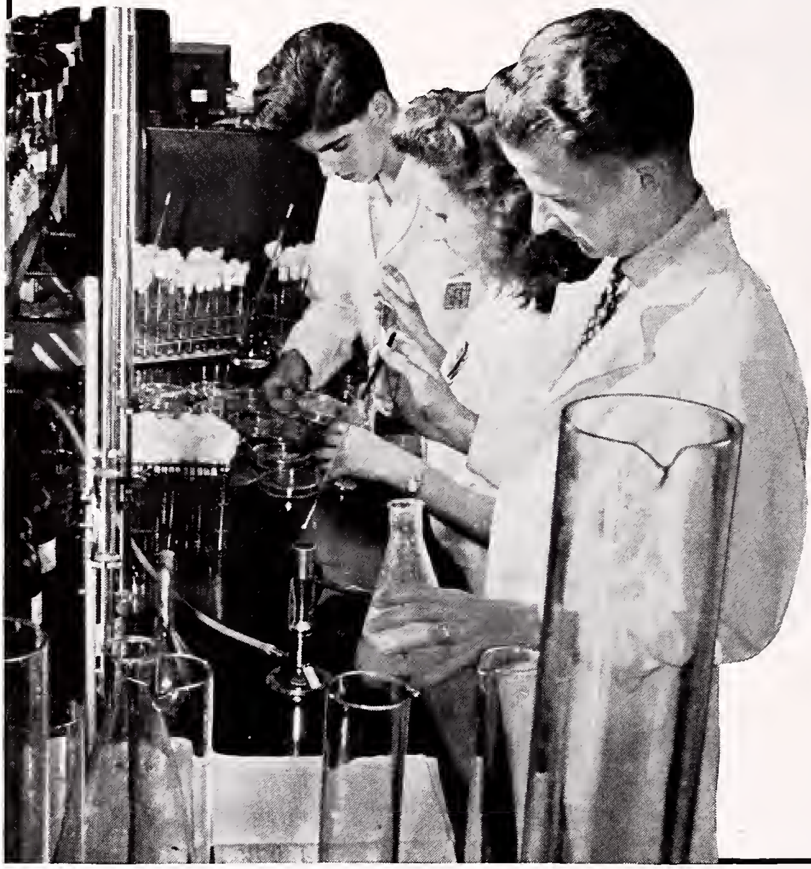

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1. Lennox, W. G. (1947), Tridione in the Treatment of Epilepsy, J. Amer. Med. Assn., 134:138, May 10. 2. DeJong, R. N. (1946), Further Observations on the Use of Tridione in the Control of Psychomotor Attacks, Am. J. Psychiat., 103:162, Sept.

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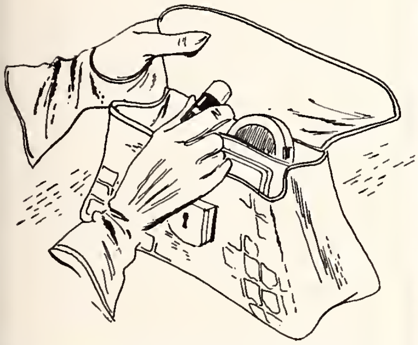

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"The Bends"

PHYSICIANS are familiar with caisson disease, the industrial hazard encountered in construction of bridges, tunnels, and skyscrapers where workers breathe air under pressures of more than one atmosphere.

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 10

OCTOBER, 1947

Per Copy, 50c
Per Year, $4.00

THE PROBLEM OF DEAFNESS*

James E. Marvil, M. D.,
Laurel, Del.

Deafness is a problem which interests all of us, but is one that most of us do little about. The reason for our apathy is the insidiousness of most cases of deafness. By the time that most patients admit that they cannot hear well the loss of hearing is 50 per cent or more, and permanent changes have taken place. Not only is treatment ineffective at this point, but it is late for the patient to adjust himself to hearing aids, lip reading and other helps which could previously have been accepted more easily and with greater benefit. Many patients come to the otologist with as much as a 60 per cent loss of hearing and complain they can hear very well but cannot understand, or that they get ordinary conversations well, but have trouble in groups.

We have the other type of patient also, the one who comes to the otologist early but treatment is of no benefit For this type of patient the otologist can render a valuable service in helping to conserve the residual hearing, and in helping to get the maximum efficiency from what is left. The medical branches of our Armed Services at present are doing a wonderful job in helping deafened service men learn to use hearing aids, to learn lip reading, and how to adjust themselves to as normal living as is possible. The hard of hearing patient needs a great deal of special care and follow up work. To give a patient a hearing aid and to send him on his way is likely to result in the hearing aid's ending up in the nearest bureau drawer, since the patient expects to hear as he did years ago, and is disappointed that batteries run down, and does not realize that he has forgotten how many things used to sound when his hearing was better.

It has been estimated that there are 150,000 totally deaf persons in this country. About one-half of these are deaf mutes. The number of hard of hearing school children has been estimated at 2,500,000. The number of partially deafened adults is not available, but we all know that it is large. Almost every family has its share of hard of hearing persons.

Deafness is a real disability; it is just as real as any other type. It affects a person's ability to earn a living, and his ability to enjoy the companionship of his fellow man. The hard of hearing often become depressed, nervous and irritable, and develops inferiority complexes because he is unable to take his place in society.

What can we do to help the hard of hearing patient?

First—Accurate diagnosis.

Second—Treatment so that progress of the disease may be arrested and hearing recovered, which is possible in certain conditions.

Third—If treatment is not possible, then the patient should be helped to make the best possible use of the residual hearing. By this it is meant to help the patient select the best hearing aid for his particular case, and see that he persists in using it until he has learned to get the best possible results from it. He should be taught lip reading if possible, and he should be treated from the psychiatric point of view so that he will get over any possible inferiority complexes.

For convenience deafness cases have been divided into two major types

1. Conductive type. This includes abnormalities of the external ear, ear canal, ear drum, middle ear, and ossicles.
2. Perceptive or nerve deafness.

There is a mixed type which is a combination of both the conductive and the perceptive types. In the conductive type of deafness the loss of hearing is usually about the same for all frequencies; while in the perceptive type the hearing loss is usually greater in the high tones. It has been found, however, that there is a loss for high tones at times when the conductive type is present. This was confirmed by Samuel J. Crowe, of Johns Hopkins, in his work on deafened children.

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* Read before the Medical Society of Delaware, Dover, October 8, 1946.

Narrowing the field further, we find many special subdivisions of the two major types. Under the conductive type:

1. Deafness due to trauma, malformations, or disease of the external ear or canal.
2. Deafness due to disease of the middle ear. This includes healed or unhealed otitis media, catarrhal otitis media, usually associated with diseases of the nasopharynx and sinusitis.
3. Otosclerosis is an entity all its own. Here we find the formation of spongy bone at the junction of the stapes and the capsule of the inner ear. I am sure that all of you are familiar with the work of Dr. Julius Lempert, of New York, who has devised an operation to form a new fistula into the labrynth, with dramatic results in many cases. This operation is still being improved upon, one of the outstanding improvements being accomplished by Dr. Shambaugh, who devised a method of flushing away with normal salt solution the bone dust which accumulated at the site of operation from the drill. This bone dust acted as a graft and caused many failures in the fenestration operation. Many otologists are working full time on the fenestration operation, and it is expected that in the near future the percentage of good results will be much higher.

Under the perceptive or nerve deafness we have:

1. Congenital deafness, where the organ of Corti or cochlear nerve has failed to develop properly.
2. Acquired deafness following acute infectious diseases. This is seen in conditions accompanied by extremely high temperatures (such as epidemic meningitis by its action on the inner ear), scarlet fever, and influenza.
3. Constitutional deafness, as in lues, arteriosclerosis, and in senility.
4. Toxic deafness, as in neuritis of the 8th nerve from acetysalicylic acid, quinine, and other toxic substances.
5. Traumatic deafness resulting from degenerations of the organ of Corti by a sudden loud noise as an exploding shell or exposure to continued loud noises, as in many industries.

The diagnosis in most cases is not too difficult. A careful history will usually suggest which group to suspect. The most frequent type of deafness seen is the conductive type, and the most common variety is the chronic catarrhal type. If the history reveals frequent colds over a long period, associated with earache and discharging ears, then the diagnosis is likely to be a chronic catarrhal type. Examination of the above type of patient will probably reveal a markedly retracted sclerotic type of ear drum, with calcified deposits, scars, and perhaps healed or unhealed perforations. On the other hand, the ear canal and drum may appear perfectly normal, in which case a nerve deafness or otosclerosis is suspected.

Ear wax is seldom found in deaf persons, but there are exceptions to this rule as there are to all others. Atrophic changes of the inner and middle ears are usually but not always extended to the external canals resulting in a lack of normal cerumen.

The patient frequently says that he can hear but that he cannot understand. This is because he can hear certain tones but is deaf to other tones, resulting in his hearing only parts of a word. If he has a nerve deafness he may be able to hear low tones well, but hears high tones very poorly. This may be compared to a person trying to read a newspaper which has been cut full of holes.

After the history has been taken the patient is then examined. The hearing is tested last so that cerumen if present or any other obstruction may be removed beforehand. The best ear is examined first so that pathology in the poorer ear will be more outstanding. The external canal is examined first, and then the ear drum. The presence or absence of defects, perforations, discharge, landmarks, retraction, transparency or opacity of the drum, cone of light, and the appearance of the middle ear seen through the ear drum, if transparent, are noted.

If the ear drum is retracted, dull, and sclerotic in appearance then the chronic catarrhal type is being dealt with. Time will not permit detailed findings in the other ear conditions.

The next step is to investigate the state of hearing. Whispered and spoken voice tests are easy to do, providing a quiet place is available. Tuning forks C 64 and C 4 (high C) are necessary parts of the otologist's armentarium. If the examiner's hearing is normal the patient's hearing may be compared. One of the standard audiometers is very useful and almost essential in detecting the very early cases of deafness, and also very useful in determining the progress of a patient. Is he improving or not? A 5 per cent loss or gain is very easily detected with the use of the audiometer. These tests are run by the office assistant and only require a few minutes to do.

Now that the diagnosis has been arrived at, what is to be done for the patient? It is small comfort to the patient to be told that he has some high sounding diagnosis but that there is no adequate treatment. The first consideration is to arrest, if possible, the course of the disease process, and to improve the hearing that is left.

Most of the cases of deafness in children are of the catarrhal type. The openings of the eustachian tubes in the nasopharynx are obstructed by lymphoid tissue, either the adenoids, or, if the adenoids have been removed, then by lymphoid tissue which has recurred or enlarged following the removal of the adenoids. This type of patient as a result of the closure of the eustachian tubes has an absorption of the air from the middle ear, resulting in retraction of the ear drums. At times mucus is aspirated into the middle ears from the nasopharynx, causing more deafness. If the mucus organizes, permanent adhesions form between the ear drum and the wall of the middle ear. This type of patient is markedly benefited by irradiation of the nasopharynx according to the method of Crowe or by x-ray treatment. If radium is used, it is passed through the nose into the nasopharynx in a monel metal applicator 1.5 mm. in diameter and about 6 inches in length. The tip of the applicator carries the radium (50 mg.) and is so placed that the chamber of radium is in contact with the eustachian tube opening. This may be checked by the use of the nasopharyngoscope in the other nostril. The radium applicator is left in place 8 minutes. Three treatments are usually required at intervals of 25 days, although in some cases more treatments may be necessary.

Usually in 3-4 weeks a marked improvement has occurred. The pharynx is beginning to look more normal. The red congested granules of lymphoid tissue have begun to disappear. The ears appear more normal on examination, and the patient's parents usually comment that Johnny sleeps more quietly and seems to hear better. Audiometer tests show definite improvements. In adults the same thing applies. In adults, as well as children, the ear drums lose the opacity, and in a few months even regain the normal transparency.

Irradiation of the nasopharynx has been done by Dr. Crowe, at Johns Hopkins, for about 10 years, but did not gain a great deal of popularity until World War II. In our Air Forces thousands of flyers suffering from aerotitis were treated by irradiation of the nasopharynx. Results were dramatic in most cases. In some cases irradiation was combined with surgical removal of lymphoid tissue from the nasopharynx.

In conclusion, I feel that the hard of hearing patient should be encouraged to help himself: First, by receiving adequate treatment; second, by being encouraged to persevere in the use of a hearing aid until it becomes a great benefit; third, by being taught lip reading.

Discussion

Dr. E. R. Mayerberg (Wilmington): I thoroughly enjoyed Dr. Marvil's paper. I am glad that he has not laid too much stress on the benefit of treatment in any type of deafness. I would be most discouraged in all of my practice in treating ears if I had not made some progress, but in the last 50 years, with all the progress in medicine, we made less progress in ear work than in any other branch. It is true in some forms, in the otosclerotic type, that the fenestration operation does offer some help, but do not be too cheerful about that: the operation is still in the experimental stage. Results have been good in some cases that I have seen, for two or three years, and then the fenestration closes over with very dense fibrous tissue and the patient is just as bad off as before he was operated on.

Dr. Lempert and others are continually working to improve this type of operation. They are now using the tympanic membrane to cover the opening in the labyrinth, and they believe that offers more than any other type of operation up to this time: time will show. It has not been used long enough to arrive at any definite conclusions. The point I make here is, do not shoo your patients off for the fenestration operation unless you are sure first of your diagnosis and then that you are sure of the individual who is going to operate on that patient. The operation will probably fall into disrepute, because it will be tried by many inexperienced persons who are not qualified to do the operation. So be careful with the man you select to do your operation. I do not believe that the average otologist is qualified to do the fenestration at this time unless he has had a lot of experience in the laboratory and has followed one of the masters in the work.

I happen to know of several men nearby who are attempting the operation. They do say to the patients—they are leaving a loophole—"We aren't promising you a thing with this operation. You can have it if you want it. I don't insist that you have it, but if you want it, I will try it." I have seen 4 of those patients who have not been helped at all. In the first place, two of them were not the right type for the operation.

Prevention of deafness so far has offered more than any treatment or any type of cure that we have had to offer. Prevention of diseased tonsils and adenoids and follow that up by deep x-ray and radium if necessary. A word of caution here. If the nasopharynx is cleaned out you must remove the adenoid tissues, because the adenoid tissues are bringing about some lymphoid condition in the ear. Slap-dash surgery is not any cure to the nasopharynx If the adenoids and tonsils are to be taken out, they should be taken out and the area around the nasopharynx be cleaned. To my mind it is a lot more important to get the adenoid tissue out than the large mass because that adenoid tissue is subject to inflammatory changes and will cause middle ear involvement and means deafness. So there, again, your surgery must be thorough.

There have been many injections, many types of drugs offered in the last few years, and in my journals I find extravagant accounts of progress in this field due to the administration of these drugs, Jacobson's solution, prostigmine, etc. I have a stack of audiograms of all types of deafness and I have used all of these preparations and I cannot say that I have seen one single case that has shown as much as a 5-10 decibel improvement due to the administration of those drugs. I am still experimenting and hoping that some day I might find a group of cases that will show the results that are reported in the journals today. So far I have been very disappointed. Thank you.

DR. W. M. PIERSON (Wilmington): I enjoyed Dr. Marvil's paper very much. It is a very timely subject, one that is interesting not only to the otologists but to physicians as well as laymen.

Quite often I say to a patient—"Of course, you won't believe it, but a person who may be going blind, as bad as that is, is not as unfortunate or will not be as unhappy as the patient who is going deaf." Dr. Marvil pointed out that very deaf patients feel very, very unhappy because they feel as if they are out of this world, and the blind patient, as a rule, seems to be very much more happy, but you can't convince a blind person of that. However, that is my experience.

There are many interesting points that Dr. Marvil mentioned that I would like to take up, but time limits that and I would just like to say a few words about the cases that we are able to do something with; namely, the types of conductive deafness in children due to infections or to hyperplastic tissue, adenoid, and nasopharynx.

Dr. Crowe has done a wonderful work on this subject, and his irradiation treatment is undertaken almost everywhere at the present time. The radium applicators are available to any one and the treatment may be done as an office procedure and is not necessarily a hospital procedure.

Before undertaking this treatment it is necessary that the nasopharynx be removed of all tissues that are surgically removable. A child may have his tonsils and adenoids out for deafness followed by almost complete recovery and yet in a few months the deafness may return. Inspection of the nasopharynx shows no evidence of adenoid tissue. It may not show the evidence of hyperplastic change in the eustachian tube, but you must remember that the tissue extends into the eustachian tube which you cannot see and yet that may be responsible for the deafness and only irradiation by x-ray or radium will take care of the case. Now, which is the better, x-ray or radium? X-ray is better for some cases. In a very young child, 3-4 years old, only the otologist understands what a problem it may be to inspect the child, let alone trying to treat it without a general anesthetic. In a case such as that, x-ray treatment in competent hands is the more satisfactory. Many of these cases have lymphoid hyperplasia, so that x-ray treatment would be more satisfactory.

However, in a case where the nasopharynx is comparatively free of tissue and tube is comparatively normal and you want treatment concentrated on the orifice of the eustachian tube, radium application is the better. Formerly it was argued that radium was indicated because it meant just one treatment, whereas x-ray therapy meant the patient going back to the radiologist or roentgenologist 5-6 times However, at the present time it is accepted that irradiation by radium is not successful with one application, but it is even felt that after three applications we cannot expect too much. The frequency with which it is given is about every 3-4 weeks and it is not until after the 3rd treatment that we can expect to show any improvement.

I agree with Dr. Marvil and Dr. Mayerberg that the fenestration operation is a highly specialized one, contrary to what the public has read in Time or Reader's Digest. The technique is still changing, and I agree that until it reaches a point where it is uniform it is better to refer our patients to those who have had the opportunity to work on a large number of clinic patients.

I would like to mention one patient I have known for a period of 25 years, a female, who 25 years ago could not hear ordinary conversation. She had the operation 3 years ago. She does not wear a hearing aid, and she can sit in this audience and hear everything that goes on.

Dr. W. T. Reardon (Wilmington): Dr. Marvil covered the field pretty well, but I would like to mention a few things he didn't go into very far, and one of the things is the question of lip reading, in those patients that Dr. Marvil spoke of who know that they have deafness and that there is not a whole lot that is going to be done about it. I think the most important thing we can do to help them is to tell them immediately to go somewhere and learn lip reading, because you can learn lip reading a whole lot better when you have some hearing left. These patients have a more difficult time learning when their hearing is gone beyond the conversational and loud tones. Adults cannot pick up the method as well as the children, so if this is started among the children it can be a big help to those who are deaf.

Another point that Dr. Marvil mentioned concerns the man with occupational deafness, the patient who has been working in a boiler factory somewhere for 20 years. Maybe he comes in, and nothing can be done about the deafness. That point is going to be taken up some day. Probably not a whole lot can be done about it now, but that is the result of industry. The man became deaf because of the type of work he was doing and he hasn't been protected, but eventually that lesion will be compensatory.

Another point is our school children with obstructive deafness. They may be up in the third, fourth or fifth grades and they are called dunce, the dummy, and they are left back, and after a while some one says: let's examine the nasopharynx, and there is the cause of the child's deafness. It would help in the rehabilitation of these children if these things were taken care of before they go to school. The school could also help a great deal.

Another thing that can help your patients is the hearing aid. Patients will come in to you after they have gotten a hearing aid without going to the otologist first: some one else got a hearing aid so they got one. As a result of that they will have 3-4 hearing aids tucked away in a drawer. Tell these patients that they are going to get a hearing aid to go somewhere and have a model made that will fit the ear. That thing they can attach to any hearing aid, and that is the best type of apparatus for your hearing aid. Most of your hearing apparatus are stuck inside the ear or they stick on the outside of the ear, but you can hear better with this molded type that is made.

Then the patient can take this mold and go around to the different people who manufacture and sell these types of hearing aids, pick out the one he likes best, make a deposit and use the hearing aid for maybe a month and then in that way they can pick out the hearing aid that will suit them best and buy that one.

DR. JOHN McK. MITCHELL (Rosemont, Pa.): If I may supplement Dr. Reardon's remarks, there is a clinic at the present time in Philadelphia, connected with Temple University, where patients go for exhaustive studies to determine the type of hearing aid they need.

This plan of Dr. Reardon's to get the ear piece and then go around and try the different aids is good, but it would be still better to go to a clinic, like the one at Temple, and let them determine there just exactly the type of hearing aid they need. That clinic has just been started in the last few months.

URETERO-INTESTINAL ANASTOMOSIS WITH TOTAL CYSTECTOMY IN VESICAL CARCINOMA*

BRICE S. VALLETT, M. D.,
Wilmington, Del.

The modern trend in the treatment of vesical carcinoma is toward total removal of the cancer-bearing organ.

Radium has been disappointing with the exception of the gaseous form, radon, this form serving best where used to supplement electric resection and electro-coagulation. Deep x-ray therapy also serves best when used as an adjunct to electric resection and coagulation of the growth. The results in segmental resection of vesical carcinomata are notoriously bad. When one considers that vesical cancer occurs most often in the trigonal and bladder neck areas it is not difficult to see how the use of radium and deep x-ray may adversely affect the ureteral openings and the vesical neck. In a very recent case of my own, in a man aged 51 with a tumor involving the left side of the trigone, the indications suggested total cystecomy. As there was not wholehearted support on the part of the family and not having the courage of my convictions I elected to electrically resect the growth and then implant radon seeds into the tumor base. There was much pain subsequent to the radon implantation, with an early occlusion of the left ureteral orifice. Ultimately a stricture developed in the right ureter due either to radium reaction with fibrosis or tumor extension, and the patient died in uremia.

It is just such an experience as this that has intensified the efforts of the urologist in recent years toward the development of a safer and better uretero-intestinal anastomosis.

Graves and Thompson[1] state: "It is now realized that bladder tumors contiguous to the prostate are not controlled by radium or any other method of treatment short of complete surgical extirpation of the structure involved." These authors had performed 28 cystectomies at the time of their paper, 13 living and free of malignant disease. Of their last 20 cases since 1939, 11 are living with no apparent evidence of recurrent carcinoma.

Jewett and Strong[2] state that they: (In order to determine the conditions under which local extension and metastasis occur) found it necessary to make an exhaustive study of autopsy material. In 107 autopsy cases they sought to determine three things. The relation of depth of penetration of the bladder wall to the incidence of

1. Metastasis
2. Lymphatic capillary invasion (incipient metastasis)
3. Perivesical fixation.

The cases were also separated into three groups according to depth of penetration of the bladder wall.

Group A—Those in which tumor cells were confined to the submucosa.

Group B—Those in which infiltration had extended to but not through the muscularis.

Group C—Those in which tumor cells had extended completely through the muscle coat.

The number of cases with regional or distant metastases, the number showing perivesical lymphatic or vascular invasions, and the number with perivesical fixation of the mass was determined for each group. In each group the percentage of cases without these evidences of tumor spread gave the following figure for *potential curability*:

Group A—Submucosal infiltration—100%.
Group B—Muscular infiltration—86%.
Group C—Perivesical infiltration—26%.

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* Read before the Medical Society of Delaware, Dover, October 9, 1946.

They also state "that in the majority of cases it would seem that the tumor does not metastasize until it has passed through the muscle layer." Their work also shows that perivesical infiltration and invasion of lymphatics is not simultaneous. This fact might well be the determining factor in deciding for cystectomy in cases where no other evidence of tumor spread is detectable other than perivesical infiltration. The cardinal sites of metastases are: (1) regional lymph nodes; (2) liver; (3) lungs; (4) vertebral column, including sacrum and pelvis.

The part that surgical judgment must play in dictating treament in this disease may be surmised from a summary of Jewett and Blackman's paper[3]. They state "often in cases of infiltrating carcinoma of the bladder, we do not find the same degree of differentiation throughout a single tumor and in its metastases. Single small sections, biopsy or not, do not necessarily tell what the predominant degree of differentiation in the whole tumor will be. Accurate classification of large infiltrating carcinomas of the bladder on the basis of the degree of cellular differentiation alone is impossible." Priestley and Strom[4] state that "definite indications are difficult to establish as there is no standardization as yet, experience is lacking in a large series of cases so that ultimate survival rates could be ascertained in relation to the type of lesion." They feel that cystectomy should be performed in the four following groups:

(1) Very extensive low grade neoplasm
(2) Repeatedly recurring low grade neoplasm
(3) Multiple foci of origin of neoplasm
(4) High grade neoplasm.

The following requirements must be met if cystectomy is decided upon.[1] A complete history and physical examination[2] The lungs are x-rayed for metastases, likewise the abdomen and any localized painful area.[3] Check on the circulation. Anemia that will not respond to treatment is an ominous sign.[4] The renal function is checked by pthalein and blood chemistry.[5] Intravenous urography is done, as it is felt unwise to catheterize the ureters through a cancer infested bladder. Retrograde cystography is superior to excretory cystography, and oblique pictures should be taken as they reveal the posterior portion of the bladder where tumor is most common. Cystography will often be of great help after cystoscopy has failed to give the true size of the tumor.[6] Recto-abdominal palpation of the bladder under anesthesia. Jewett[5] states that "recto-abdominal palpation under anesthesia is the most satisfactory method for determining the primary carcinoma is confined to the bladder wall. Total cystectomy as a means of cure should be considered only when the mass is completely confined to the bladder wall and movable. Recto-abdominal palpation under anesthesia in cases of carcinoma of the bladder gives invaluable aid in establishing[1] deep invasion of the bladder muscle, indicating the probable hopelessness of further conservative management[2] suitability of the case for radical cure by total cystectomy. Priestley and Strom[4] state that: "if cystectomy has been decided upon one should not proceed with complete removal of the bladder until the abdominal cavity, including the liver, periaortic nodes, iliac nodes and lymphatics close to the bladder has been explored and found free of neoplastic involvement."

Preparation of the Patient

Surgical Principles and Techniques

The preparation of the patient is important. A bland, non-residue diet is instituted for three days prior to operation. Enemata are used to insure thorough cleansing of the lower bowel, and a rectal tube is inserted before the operation is begun. The sulfonamides, such as sulfathiazol, sulfasuxadine or sulfapthaladine, are given to insure some degree of intestinal antisepsis. Streptomycin gives promise of being especially useful here. Spinal anesthesia, in conjunction with avertin or pentothal, has been the anesthetic of choice. The surgical technique varies somewhat with different operators in removal of the bladder. Some men remove it entirely through an abdominal incision. Others prefer a combined abdomino-perineal technique to insure removal of enough urethra. In one of my cases I removed the bladder, prostate and seminal vesicles en bloc through the perineum. This patient had a small fecal fistula that had developed to a faulty ureteral implantation, but as it had almost ceased draining, it was felt that perineal removal of the bladder could cause little if any disturbance of the healed tract. The operation took a little over an hour and there was no postoperative shock. In five days, however, the patient succumbed to a localized peritonitis. At autopsy the peritonitis was directly traceable to the site of the former left ureteral implantation.

Of the various techniques for uretero-intestinal anastomosis I shall mention three. Coffey's technique No. 1 has perhaps been the one most extensively employed. It was devised according to the principle of valve action. Many cases done by this technique have developed hydronephrosis and ascending infection. However, it must be remembered that when Coffey introduced his technique in 1911 the procedure did not have the benefit of the modern urinary and bowel disinfectant drugs. Then again technical errors account for many failures.

The second technique herein considered is that of Jewett.[6] He has developed a two stage technique, at the first stage carrying over the intact ureters into freshly prepared beds in the sigmoid. After healing has taken place the distal ends of the ureters are severed below their emergence from the sigmoid a special electrode is passed into the ureteral lumen and a new stoma created connecting ureter and bowel. The distal end of the ureter is now treated with phenol and alcohol and triply ligated. There is very little chance for leakage if the technique is executed properly. In his last ten cases there was but one death, due to pulmonary hemorrhage from an undetected metastasis.

The most recent technique is that of Davalos of the New York Hospital. His experimental work on dogs has been excellent and his technique departs somewhat radically from that of many other experimenters in this field. Most men use the anterior longitudinal band of the sigmoid and make an incision in and parallel to the band. Davalos[7] makes a transverse incision in the bowel between the small mesenteric vessels down to the submucosal coat; this incision is widened and the severed end of the ureter is implanted as low down in the incision as possible. The incision is then carried into the bowel and mattress sutures so placed that when the incision is closed a flap bearing the draining or secreting end of the ureter is carried into the bowel lumen. This flap is designed to prevent hydronephrosis and ascending infection. Davalos up to July this summer had operated upon five human cases. His results will be published later.

Discussion

Postoperative care consists in maintaining urinary and bowel antisepsis. One of our most promising cases when discharged from the hospital was at home one month when he was readmitted to the hospital in uremic coma induced by an acute ascending pyelonephritis. He had discontinued the use of all urinary antiseptics. An autopsy of the kidneys were studded with small abscesses, but the uretero-intestinal anastomoses had healed perfectly and the pelvic peritoneum was perfectly clear. These patients after a short period of diarrhea soon get complete control of their bowels and should be cautioned not to hold the urine for more than four hours. One of my patients seemed perfectly happy after she found that she could sit through a double feature at the movies.

Priestley and Strom of the Mayo Clinic[4] state that: "If the operative mortality rate of bilateral ureterosigmoidostomy and total cystectomy can be kept within a reasonable limit, the application of this method of treatment for vesical neoplasm should become broader, providing of course one admits there are certain types of cases for which the operation gives the best chance of cure." In July of this year Dr. Ferris of the Mayo Clinic had had 17 consecutive cases of total cystectomy with uretero-intestinal anastomosis without a death, the entire operation being done in one stage and his operating time being somewhat over one hour. Results from this operation will improve as we approach technical perfection and more carefully select our cases.

Summary

1. The trend of modern treatment of vesical carcinoma is toward total removal of the cancer-bearing organ.
2. The results of radium, x-ray and palliative surgery have been disappointing in the past.

3. The indications and requirements for operation are briefly discussed, as well as the preparation of the patient, and the various surgical techniques employed.
4. The importance of postoperative care is stressed.
5. Careful selection of cases and improvements in technique will improve the results in this operation.

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4. Priestley and Strom: J. Uro., Aug., 1943.
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7. Davalos: J. Uro., Oct., 1945.

Discussion

Dr. A. L. Heck (Wilmington): I do not feel qualified to discuss Dr. Vallett's paper.

Dr. Vallett is to be congratulated on the presentation of this fine paper and for getting this film from Dr. Davalos.

Dr. S. W. Rennie (Wilmington): I would like to ask Dr. Vallett if he is using other sutures in this technique. I have in mind steel wire or one of the metal wires for the sutures in working with the intestinal tract.

We have enjoyed this paper very much, Dr. Vallett, and the pictures were remarkable. It does take a lot of courage on the part of the physician to do such a thing as Dr. Davalos and Dr. Vallett are doing.

Dr. Vallett: I want to thank Dr. Heck and Dr. Rennie for their kind discussion. I don't know of any work, Dr. Rennie, that is being done with steel wire. However, I don't see why it couldn't be used, with the exception of this anchoring suture here. The idea of using chromic catgut is to have it sluff off eventually and leave the ureter end more or less free or unimpeded. I think Dr. Jewett is using silk in his work, and as you saw here, Dr. Davalos was using silk.

Of course, this method isn't applicable to all tumors of the bladder. I hope I didn't convey the wrong impression there. The best results in vesical cancer are gotten where you can do an electric resection. Dr. Bumpus some years ago at the Mayo Clinic reviewed his results, and he had more five-year cures in vesical cancer where he had done an electric resection of the tumor than by the implantation of radon seeds. I think most men have given up radon resection. We recently had a man die, who did very well until the first thing we knew he had a metastasis through the lymphnode in the pelvis. I remember a case Dr. Colston reported some years ago where he had no segmental section of the bladder tumor and the bladder healed perfectly, but this man died of a metastasis of the brain.

When you are dealing with tumors in the trigonal area and the radium and x-ray are not safe, then it becomes a matter of surgical judgment when you shall elect to do a total cystectomy.

SPONTANEOUS HEMOPNEUMOTHORAX*

A Case Report

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Spontaneous hemopneumothorax, in contrast to traumatic hemopneumothorax, is a relatively rare condition which develops from bleeding into the pleural cavity during the course of a spontaneous pneumothorax. In 1942 Hartzell's review of the literature revealed only 40 reported cases of idiopathic spontaneous hemopneumothorax. To these he added 3 cases, and suggested that others had occurred which had not been reported. All but one of the 43 patients were men, most of whom were between twenty and forty years of age. There was no significant difference in incidence on either side of the chest. Fourteen of the 43 cases were fatal. Since 1942 a few isolated cases have been reported.

The following report is of a case of spontaneous hemopneumothorax complicated by fibrinous adhesions and atelectasis which had a pattern found during the recent war in a small percentage of traumatic hemopneumothorax cases rather than the pattern described for typical spontaneous cases.

Case Report

E. M., a 27-year-old white male, was admitted to the Memorial Hospital on June 2, 1947, because of pain in his right chest. He had been well and working as a clerk when one week prior to admission he developed a chest cold. A cough continued all week. Pain in his right scapular region was noted for the first time on the day of admission upon arising in the morning. The pain was aggravated by moving around and by coughing and gradually became more severe. By the time he arrived at work the pain was intolerable. An x-ray taken in the plant hospital at the time showed a partial collapse of the right lung. Morphia was required to ease the pain. His past medical history revealed the fact that while he was in the Army he was studied extensively for a congenital heart murmur. He had never had rheumatic fever or diphtheria. Two years ago he had had influenza.

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Physical examination at the time of admission showed a young white male sitting up in bed with a moderate amount of respiratory distress and who then only had a slight amount of pain in his right chest. His lips appeared slightly dusky; pulse 96, regular; respiration 26, blood pressure 200/60 (right arm); 100/70 (left arm). Head and neck essentially normal; E. E. N. & T. essentially normal.

Chest: Expansion limited on right. Hyperresonant to percussion on the right especially at the base and laterally. Breath sounds diminished to absent on the right. Vesicular on the left. Whispered voice not transmitted on the right.

Heart: Apical impulse about 2 cm. outside the left M.C.L. in the fifth interspace. Left border enlarged to the left. Right border seemed shifted about 1 cm. to the left of the sternum. Heart sounds loud. Normal sinus rhythm. Loud systolic murmur at the apex and pulmonary areas which is loudest over the latter area. The murmur is also heard less distinctly in the third interspace to the left of the sternum and in the aortic areas and is transmitted to the neck vessels on the right.

Abdomen: Flat, no scars, no palpable organs or masses.

Extremities: Traumatic amputation of the right thumb at the distal phalanx.

The impressions at the time of admission were:

(1) spontaneous pneumothorax
(2) aortic stenosis and regurgitation
(3) relative mitral insufficiency
(4) coarctation of the aorta.

His admission laboratory work showed RBC 3.85 million, Hb 12.5 grams 80%, WBC 11,700 with an essentially normal differential. A urinalysis showed only 5-6 WBC per HPF.

June 4, 1947—Patient nauseated most of day. Vomited several times. Coffee-ground like vomitus. During one episode of vomiting in the afternoon patient became very apprehensive and mildly cyanotic. Physical findings in the chest essentially the same as on admission.

June 5, 1947—Nausea and vomiting of coffee-ground like material continued most of the night. Levine tube passed but unsuccessful in controlling nausea and vomiting. An x-ray of the chest showed a greater degree of lung collapse than that demonstrated in the film taken where he worked. There was also evidence of pleural effusion with a shift of the mediastinum to the left. The left lung was normally aerated. RBC 2.93 million, Hb 8.5 grams, WBC 17,300. Temperature up to 103.4°. Placed in oxygen. Started on penicillin 100,000 units stat, then 50,000 units every three hours. Given 500 cc. whole blood transfusion.

June 6, 1947—Temperature 103.3°. Patient appeared to be more tired and weaker. Marked pallor persisted. BP 60/? left arm, 110/? right arm. Left chest clear. Percussion note was still dull at the right base. RBC 3.06 million. Hb. 7.5 grams. BUN 114 mgm%. Blood Chlorides 430 mgm%. Creatinine 4 mgm%. Given another 1000 cc. whole blood.

June 7, 1947—Temperature down to 102°. RBC 2.60 million. Hb. 8.5 grams, WBC 28,600. BUN 132 mgm%. Creatinine 4.5 mgm%. Given another 500 cc. whole blood. A right thoracentesis in the 7th interspace in the post-scapular line produced 150 cc. of old blood. The needle was introduced again in the 2nd interspace anteriorly and 760 cc. of air was removed.

June 8, 1947—Temperature 101°. A chest x-ray showed evidence of a considerable increase in the amount of fluid in the right thorax. The right lung was still markedly collapsed and there was a considerable shift of the mediastinum to the left. 510 cc. air plus 15 cc. blood removed by a right anterior thoracentesis in the 2nd interspace.

June 9, 1947—RBC 3.10 million, Hb 10.5

grams. BUN 78 mgm%. 1400 cc. old blood removed from right chest by thoracentesis in the 6th interspace mid-axillary line.

June 10, 1947—An x-ray showed the entire right chest cavity to now be obliterated by a very dense homogeneous shadow, apparently due to an increased amount of bloody fluid in the right chest cavity. 1630 cc. dark blood evacuated by a right thoracentesis.

June 12, 1947—Temperature normal. Penicillin discontinued. An x-ray showed a considerable re-expansion of the right lung since the previous examination was made. There was still, however, a marked amount of fluid and probably exudative pleuritis. 2000 cc. old blood removed by thoracentesis in the right 9th interspace in the post-scapular line.

June 13, 1947—Temperature normal. Another x-ray showed the right lung to be partially expanded but it was felt that it was only the upper lobe that had become aerated. The partially expanded upper lobe was surrounded by a dense material consisting of a small amount of fluid and a large amount of blood clot and fibrin.

June 14, 1947—750 cc. of liquifying blood removed by going in the 9th interspace.

June 20, 1947—75 cc. thin brown fluid removed by thoracentesis. There was no essential change in the thickened peripheral pleura in the right chest which could be demonstrated by x-ray.

June 23, 1947—180 cc. thick dark fluid removed from the right chest. Seen by chest surgeon who recommended decortication of the lung and removal of all the clots.

June 24, 1947—EKG done and interpreted as being normal. BUN 20 mgm%.

June 29, 1947—300 cc. thick blood with clots aspirated from right chest.

July 2, 1947—Pleural fluid reported as sterile.

July 5, 1947—X-ray showed the extreme pleural thickening to have increased causing greater compression of the right lung.

July 7, 1947—A decortication of the right lung and an evacuation of the pleural exudate were done under cyclopropane endotracheal anesthesia.

July 9, 1947—A post-operative x-ray of the chest showed a considerable amount of air getting into the right lung. Culture of pleural fluid reported as negative after forty-eight hours. Allowed out of bed.

July 10, 1947—Patient ambulatory.

July 11, 1947—X-ray of chest showed a fluid level in the lower portion of the right chest. No evidence was seen of expanded lung in the upper right thorax. There was evidence of an almost completely collapsed lung in the mediastinum and portions of the lower thorax. It was believed that the patient had had either another lung blowout or that air might have been inserted by aspiration.

July 13, 1947—Afebrile. RBC 4.38 million. Hb 13 grams.

July 15, 1947—X-ray showed about 40% re-expansion of the right lung.

July 16, 1947—TPR normal. 500 cc. air removed from the right chest.

July 18, 1947—550 cc. air removed from the right chest. Fluoroscopic examination showed a small amount of fluid at the base, a diaphragm that moved poorly and a right lung that was now about 65% expanded. TPR normal. Discharged from hospital on this, his 11th post-operative day.

Addendum: During the week of October 6, 1947, patient reported as being at work every day. Fluoroscopy showed lung to be completely re-expanded and only a small area of thickened pleura at the right costophrenic sinus.

Seventy to ninety per cent of all cases of spontaneous pneumothorax are known to occur following tuberculosis[2]. On the contrary, there was no evidence of tuberculosis in the majority of the 49 cases of spontaneous hemopneumothorax collected by Hopkins[3]. Other causes of spontaneous pneumothorax are abscess or gangrene of the lung, bronchiectasis, pneumonia, septic infarct, rupture of an emphysematous vesicle (e. g. in asthma), rupture of a cyst in a congenitally cystic lung, gas bacilli in a pleural effusion, perforation of the esophagus, and rupture of a gastric ulcer or of a liver abscess through the diaphragm.

The usual explanation[1] for the occurrence of a pneumothorax in an otherwise healthy individual is the rupture of a valve vesicle situated near the pleural surface or rupture of pleural bullae, both of which have been demonstrated in autopsy specimens. In addition Macklin[4] points out that in experimental insufflation of cats' lungs pneumothorax results when air escapes out of the alveoli into the perivascular sheaths. It then dissects through the interstitial tissue into the mediastinum. The pneumothorax occurs when the thin mediastinal wall ruptures into the pleural cavity. In Macklin's experiments he was not able to demonstrate rupture of the pleural surfaces in any of his animals. He suggests that in man the increased intra-pleural pressure necessary to cause such an extravasation of air could occur with a mucus plug closing a bronchus in expiration but not in inspiration. One might find this situation, for example, in peripheral atelectasis when the air under increased pressure cannot escape to other portions of the lung. Further evidence that this mechanism occurs in man comes from Hammon[5], who has reported pneumothorax in two of seven cases of spontaneous mediastinal emphysema, and from Miller[6] and Goldman[7] who both reported cases of pneumothorax following atelectasis, the former in association with mediastinal emphysema.

Bleeding is thought[1] to result from a torn pleural adhesion or from ruptured bullae (which have often been shown to have vascular walls). In most of the autopsied cases reviewed by Hartzell, however, no source of bleeding was found. The most likely source of massive hemorrhage would seem to be bleeding from parietal vessels which have a higher pressure than those in the lung. This is a known factor in bleeding following artificial pneumothorax for tuberculosis. A less likely cause is rupture of vascularized bullae, as they would probably be collapsed by the spontaneous pneumothorax. Korol[9] gives this latter explanation for the relative infrequency of bleeding in spontaneous pneumothorax in tuberculosis.

Hemoptysis is rarely reported. Hartzell mentioned it in two of his cases. One patient had transient blood-tinged sputum while the other brought up about an ounce of blood.

Spontaneous pneumothorax is suggested by sudden pain in the thorax followed by progressive dyspnea. Bleeding into the chest may occur almost immediately or be delayed several days. Hopkins[3] noted that delayed bleeding was usually preceded by an episode of pain, probably due to tearing of pleural adhesions. Bleeding may be noted by physical signs (auscultation and percussion), and/or by clinical evidence of blood loss. Massive bleeding necessitating blood transfusions has been reported in only a small number of cases.

Snively[8] noted that no recurrent case of spontaneous hemopneumothorax has been reported, in contrast to the numerous reports of recurrent spontaneous pneumothorax. In fact, Goldman[7] injected blood into the pleural cavity in one of his cases of spontaneous pneumothorax to prevent recurrence. However, he reported another case of massive hemopneumothorax followed in six weeks by spontaneous pneumothorax on the same side and noted there were two others reported in the literature.

Blood in the pleural cavity is usually unclotted. This fluidity as explained by Trausseau (quoted by Hartzell) is due to the rapid defibrination of the blood by heart and respiratory movements which cause fibrin to deposit on the pleural surfaces. Massive deposits of fibrin have been found in some autopsied cases but not in all. War experience[10] has shown that massive clotting does take place in from four to six per cent of traumatic hemopneumothorax cases. Because of this, aspiration of 350 to 600 cc. of blood starting on the second to third day has been recommended without replacement of air. Simpson[11] advised immediate aspiration of air and blood in war wounds causing hemopneumothorax and stated that if complete removal of blood and air were done by a combination of apical aspiration of air and basal aspiration of blood, the reexpanded lung then prevented further complications. (The most common complication following trauma is infection, which is estimated to occur in 25% to 35% of these cases, but which is rare in spontaneous cases of hemopneumothorax.)

Most of the authors agreed that immediate aspiration may be necessary to relieve the extreme dyspnea which may occur soon after the onset of a hemopneumothorax, and in any case most of them employed aspiration starting the third to fourth day. However, some delayed much longer and it is of interest to note that one of Hartzell's[1] cases showed complete resorption of fluid in about five weeks with no attempt at removal other than for diagnosis in spite of x-ray evidence of a fluid level covering the lower two-thirds of the lung field. Hopkins[3] found no significant difference in the progress of the aspirated and the non-aspirated patients.

The consensus of these authors was that air should be injected at the time of aspiration of blood to prevent too sudden an alteration of intrapleural pressure and possible reopening of a pleural rent causing further bleeding. In support of this practice, Hopkins pointed out the well established value of artificial pneumothorax in tubercular pulmonary hemorrhage.

Summary

A case of spontaneous hemopneumothorax in a 27-year-old man has been presented. It differs from the usual cases reported in the severity of the bleeding, and the formation of massive fibrinous clots which prevented reexpansion of the lung. Surgical decortication of the lung was followed by complete recovery.

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REPORT OF A CASE OF INTERSTITIAL PREGNANCY*

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The interstitial portion of the tube is that portion which is found solely within the uterine muscle. It normally is 1 cm. long, and about 1 mm. in diameter. The occurrence of a pregnancy at this point is seemingly rare, and a review of the world literature up to July, 1943, by Grusetz and Polayes[1] discloses only 199 reported cases. Wynne[2] found the relative frequency of this type of extra-uterine gestation to be 1.16%, finding only 18 cases of interstitial pregnancies in 1547 cases studied. This shows that only a small proportion of all extra-uterine gestations are of this type.

According to Grusetz and Polayes, "in order for a pregnancy to be classified as a true interstitial pregnancy, the gestational sac must lie within the wall of the uterine cornua between the proximal end of the isthmic portion of the tube and its uterine orifice." Recently a case of this type was treated by us, and, because of its unusual features, is deemed worthy of reporting.

H. V., 31-year-old white woman was sent to the hospital by her family physician because of irregularity of menses. Her last normal period was December 14, 1946, and lasted its normal length of 5 days. She then had a period of amenorrhea lasting until February 13, 1947, when she again began to bleed. This time her period lasted for 9 days, only to recur 4 days later for an additional 5 days. The next 3 weeks she was completely free of bleeding, but at the end of this time bled for 9 days. This cycle repeated itself again at the end of 3 weeks. At no time did she pass any clots, nor did she have pain at any time except for the normal backache which was always present at her period time. Between bouts of bleeding there was no discharge or spotting.

On May 26, 1944, she delivered a normal male infant spontaneously after a 15-hour labor. Following this delivery the patient's temperature rose to 100° each afternoon for 6 days. The temperature then gradually fell to normal limits, and she was discharged on her 14th day. She was readmitted 8 weeks later because of continuing bleeding. Oxytoxic drugs were given, and 2 days later patient was discharged with a diagnosis of subinvolution of the uterus. Her periods then reestablished themselves without abnormality until her present illness.

Past medical history disclosed that 8 years previously she had spent 2½ years in Brandywine Sanitorium for tuberculosis. Otherwise, history was non-contributory.

Catamenia was established at the age of 13, recurred every 25 days, and lasted 3 to 5 days. There was moderate backache and cramps during the first several days.

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Physical examination disclosed an alert, intelligent white woman, who was lying in bed at complete ease. There were no signs of general discomfort, nor did the patient look particularly pale. General systemic examination was essentially negative except for her pelvis, which disclosed a marital outlet with good anterior and posterior support. Cervix was coated with blood-tinged mucus, but when this was cleansed off, was completely normal in appearance, excepting for a well-healed stellate laceration. Cervix was not particularly soft to touch. Uterus was enlarged to about twice normal size, and on the right side of the fundus was felt a smooth, rounded tumor that was not particularly painful to palpation. The uterus was anterior and freely movable, and felt firm throughout. No other nodules were palpated; the adnexal regions on both sides were normal.

Complete blood count showed 14.7 gm. (94%) Hb; 9700 WBC, with a differential of 71 polys, 26 lymphocytes, and 3 monocytes. Urine was negative.

A diagnosis of questionable fibroid nodule of the uterus associated with incomplete abortion was made, and, because of the atypical bleeding and the peculiar location of the nodule, it was thought that curettage should first be done. This was performed on April 12, 1947, and the report received on April 15, 1947, from the pathologist (Dr. J. W. Hooker) was: "Normal endometrium, early differentiative phase." There was no evidence of any decidual changes, inflammations, functional hyperplasia or malignancy.

On April 23, 1947, an abdominal laparotomy was performed under 12 mgm. pontocaine-glucose spinal anesthesia, combined with sodium pentothal intravenously. In the right uterine cornua was found a rounded, smooth tumor mass, which protruded toward the anterior surface of the uterus. The muscle forming its capsule was greenish-blue in color, and firm to the touch. Insufflation of the tube distal to it showed it to be patent up to the rounded tumor mass. The remainder of the pelvis was negative.

The tumor mass was incised, and there was shelled out an elongated, placental-like tissue. A right salpingectomy, including the removal of the uterine cornua, was then done, and the raw surfaces reperitonealized by the round ligament on the right side. There was no free blood or clots in the pelvic or abdominal cavities.

The report of the pathologist (Dr. J. W. Howard) on April 25, 1947, stated: "Received specimen of intact, elongated placental tissue, removed from right uterine cornua, measuring 5 x 2.5 x 2.2 cm. Section revealed placental-like tissue and what appears to be good embryonic membrane in the center. No fetus. Also received apparently normal appearing right tube. Lumen patent; proximal portion appears to be a small bit of placental-like tissue where the tube attached to the cornu. Blood clot from cornua reveals degenerating villi."

The patient had an uneventful postoperative course, being out of bed on her 4th postoperative day, and discharged home in good condition on her 7th postoperative day.

DISCUSSION

The diagnosis here was that which is most usually made—namely, a fibroid nodule of the uterus. However, in spite of this, the possibility of an incomplete abortion was also entertained from the menstrual history, and a curettage was therefore performed. We believe that the findings of this curettage are no more than we should expect. Frequently abdominal laparotomies are put off in cases with a history which is suggestive of extrauterine pregnancy because curettings do not disclose decidual changes. Our experience has been that where prolonged bleeding has occurred, the decidual elements are washed out of the uterine cavity early, and all that we obtain is early differentiative normal endometrium. Especially this is true where the gestational products have died.

Interstitial pregnancies, like all other extrauterine gestations, can terminate in one of several ways. The usual case terminates by the products of conception being expelled into the uterine cavity, there to go on to abortion, or to continue to term as an intra-uterine affair. The next most frequent occurrence is death of the ovum from compression of the surrounding muscle. This is believed to have been the case here, and that death had occurred somewhere about the 2nd month.

Many cases, however, terminate by rupture into either the broad ligament or the peritoneal cavity, the latter usually causing death to the mother from hemorrhage and shock, due to the formation of the blood vessels in this area.

A Friedmann test was not done in this case, because it was felt that no living villi would be present after such a prolonged bout of bleeding.

According to Delassio, Assali[3], and others, one should suspect interstitial pregnancy whenever one feels a hard, painful tumor in one uterine cornu that is associated with an abnormal menstrual history. In this particular case the tumor mass was not painful, and could be easily palpated between the examining fingers with no discomfort to the patient. At no time did the patient show any signs of pain on either abdominal or pelvic examination.

In conclusion, the importance of pelvic examination prior to anticipated pregnancy cannot be over-emphasized. Only by this means can the attending obstetrician be sure that no abnormalities such as tumors, cysts, or congential malformations exist. He thus has a basis for comparing any abnormalities in the uterine contour which might be caused by an extra-uterine pregnancy, and thus make possible an earlier diagnosis of such cases.

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   Schumann, E. A.: Extra-uterine Pregnancy. Gyn. & Obs. Monographs, N. Y., 1931; D. Appleton-Century Co., 7, p. 69.
3. Delassio, D., & Assali, W. S.: Interstitial Ectopic Pregnancy. Au Brasil di Ginec, 18: 238, 1944 (abst.)

MISCELLANEOUS

New Hope in Breast Cancer

Exceptionally favorable results in treatment of advanced carcinoma of the female breast with large doses of Oreton, testosterone propionate, have been reported by clinical research workers at New York's Memorial Hospital Cancer Clinic. Dr. Frank E. Adair, in a paper published in *Surgery, Gynecology and Obstetrics* 84: 719 1947) found that more than half of even the inoperable hopeless cases of breast cancer showed improvement in general health.

Relief from pain and regression of the metastases to the bone, with formation of new bone resulted. These excellent developments were obtained in patients for whom surgery and x-ray offered no help.

Dr. Adair states "We have now arrived at the point where it has come profitable to pursue the use of hormone therapy in certain types of human cancer. Up to this time we had been hampered in our clinical research; Schering Corporation generously made it possible for us to commence our new attack employing large doses."

This report followed an earlier publication by Dr. Adair and his colleague, Dr. Julian B. Herrmann, in *Annals of Surgery* 123: 1023 (1946). Further studies on earlier less advanced cases are under way and the results of these experiments soon will be revealed.

"Since World War II, cancer research has been greatly accelerated in the United States," Dr. R. R. Spencer, chief of the National Cancer Institute, Bethesda, Maryland, says in an editorial appearing in a recent issue of *Radiology*, published by the Radiological Society of North America.

"The American Cancer Society, upon the recommendations of the Committee on Growth of the National Research Council, has allocated over $1,500,000 to cancer investigation throughout the country, and the National Cancer Institute, upon the recommendations of the National Advisory Council, has distributed $500,000 since July 1, 1946," the editorial says, adding:

"Still larger sums from both private and tax-supported sources will be available after July, 1947. The emphasis today in cancer research is shifting from studies on the carcinogenic (cancer producing) process toward chemotherapy (treatment with chemicals).

"The recent advances made in our knowledge of the sex hormones in relation to the growth of certain types of cancer, the effect of nutrition (restricted caloric diet) on experimental animal cancers, both spontaneous and induced, and the discovery that certain chemicals seem to have selective effects on cancer cells have encouraged workers to concentrate upon the chemotherapeutic approach. No one can say, however, which approach is most promising, and the final solution may come from a totally unexpected source.''

Doctor Spencer's editorial, entitled ''The Present Status of Cancer Research,'' says that ''up to the present time, search for a single cause of cancer has been fruitless.'' Doctor Spencer stated that cancer can now be induced at will in experimental animals by more than 200 different chemicals.

''Progress in the therapy of cancer has been relatively slow,'' the editorial says. ''Radium, x-rays, and surgery remain our most effective weapons provided diagnosis is made early and the patient falls in expert hands.''

The American College of Physicians

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1948 - June 30, 1949. These Fellowships are designed to provide an opportunity for research training either in the basic sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in Internal Medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work. The stipend will be from $2,200 to $3,000.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1947. Announcement of the awards will be made as promptly as possible.

When compared with some other diseases, the purchase price of control of tuberculosis may be considered a bargain. This is so because we know its cause. We know how it is spread. We know how to prevent it, and we know how to treat it. Moreover, it costs pennies to control it, and dollars to tolerate it. Robert E. Plunkett, M.D., N.Y. Dept. Health, Mar., 1946.

Sweden Finds Disease Rate High Among Day Nursery Children

A Swedish social welfare committee, investigating the incidence of disease in state-aided day nurseries, found that nursery children were more susceptible to disease than children who stayed at home, according to the Stockholm correspondent of *The Journal of the American Medical Association.*

Writing in the April 26 issue of *The Journal,* the correspondent states that according to the report ''many of the nursery children have had colds for long periods and many have constant fever. Ear infections are far more numerous. Sinus and kidney inflammations have appeared among the nursery children, but not in the control group [children who stayed home]. Bacteriologic studies revealed that certain types of bacteria, which do not ordinarily appear in epidemic form, have caused minor epidemics at the nursery and that children are hardly recovered from one infection before they contract another or are perhaps infected with several types of bacteria simultaneously.''

The investigating committee made recommendations for the installation of ultraviolet lamps and the impregnation of floors and textiles with oil to reduce the risk of infection. ''With such a large percentage of Swedish mothers out at work every day,'' states *The Journal* correspondent, ''these nurseries are of the utmost importance in the present state of society.''

Student nurses often acquire tuberculosis infection as a result of exposure in the course of their training in hospitals. For them tuberculosis is an occupational disease. Physicians, nurses, orderlies, clerks, technicians and all others who have contact with patients are all subject to the hazard, although to a varying degree. Leopold Brahdy, M.D., Jour. Ind. Hygiene and Toxicology, Oct., 1945.

We have arrived at the point of diminishing returns for efforts expended in the tuberculosis program—that is, we must work harder to be sure of continued reduction in the death rate. Comm. on Tbc., N.H. Med. Soc., N.E. Jour. Med., Sept. 26, 1946.

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*Feinberg, S. M.: J.A.M.A., 132: 702 (Nov. 23) 1946.

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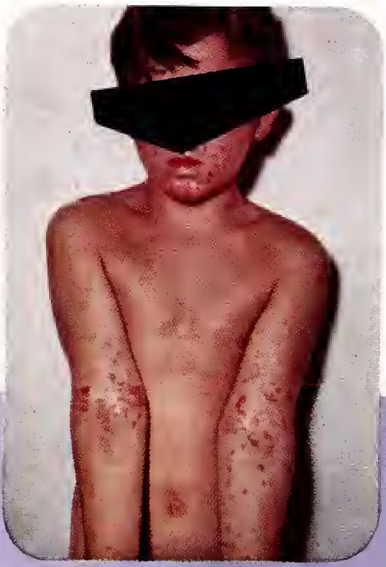

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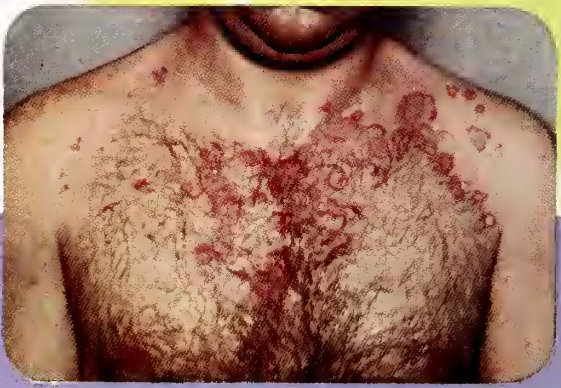

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+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

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822 North American Building

John F. Hynes, M. D. .... Associate Editor
1501 Van Buren Street

M. A. Tarumianz, M. D. ....Assoc. & Managing Editor
Farnhurst, Del.

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Vol. 19 October, 1947 No. 10

The Annual Session

The 158th Annual Session of the Medical Society of Delaware has come to Wilmington, and gone. The House of Delegates held its regular meeting on October 13th, and transacted its business deliberately but with somewhat more dispatch than formerly. Its Transactions will be published in the December issue of The Journal.

The scientific and social program of October 14th and 15th then proceeded according to plan, as follows:

Invocation, Rev. Arthur W. Goodhand, Jr., Assistant Minister, Grace Methodist Church, Wilmington.

Address of Welcome, The Honorable Joseph S. Wilson, Mayor of Wilmington.

Report of the House of Delegates.

The Electrocardiogram in Relation to Clinical Medicine, A. Henry Clagett, M. D., Wilmington, Associate Cardiologist, Memorial Hospital.

Discussion: Drs. H. W. Gray and J. R. Durham.

The Clinical Significance of Hemoptysis in Chronic Nontuberculous Diseases of the Chest, Gerald A. Beatty, M. D., Wilmington, From the Chest Clinic, Memorial Hospital.

Discussion: Drs. W. M. Pierson and J. M. Messick.

The Anemias: A Resume, John W. Howard, M. D., Wilmington, Pathologist, Delaware Hospital.

Discussion: Drs. D. M. Gay and Charles Levy.

The Treatment of Marie-Strumpell Arthritis With Roentgen Rays, Howard H. Ashbury, M. D., Baltimore, and H. Alvan Jones, M. D., Baltimore, Assistant Orthopedist, Johns Hopkins Hospital, Baltimore.

Discussion: Drs. A. R. Shands and D. J. King.

Lymphocytic Choriomeningitis, Arnold H. Williams, M. D., Laurel.

Discussion: O. J. Pollak.

Luncheon, Wilmington Country Club, guests of the New Castle County Medical Society.

Diverticulosis of the Colon, Arthur M. Shipley, M. D., Baltimore, Professor of Surgery, University of Maryland.

Discussion: Drs. L. C. McGee, B. M. Allen, and J. G. Spackman.

The Vaginal Smear: Its Use in the Diagnosis of Uterine Cancer, John W. Hooker, M. D., Wilmington, Pathologist, Memorial Hospital.

Discussion: Drs. O. N. Stern and S. W. Rennie.

The Management of Cancers of the Head and Neck, Alfred E. Hocker, M. D., New York, Attending Surgeon, Memorial Hospital; Director, Cornwall (N. Y.) Tumor Clinic.

Discussion: Drs. E. G. Laird, J. C. Pierson, and J. F. Hynes.

The Protein Requirements of Childhood, Lee E. Farr, M. D., Wilmington, Director of Research, Alfred I. duPont Institute, Nemours Foundation.

Discussion: Drs. R. O. Y. Warren and J. W. Maroney.

Congenital Heart Disease, Edgar R. Miller, M. D., Edward M. Krieger, M. D., J. Richard Durham, M. D., Wilmington, From the Cardiac Clinic, Delaware Hospital.

Cocktail Hour, duBarry Room, Hotel DuPont.

Annual Banquet of the Medical Society of Delaware. Members and guests invited to subscribe. Dress: Informal.

Address, Federal Propaganda for the Welfare State, Marjorie Shearon, Ph. D., Washington, D. C., Research Analyst, late of the U. S. Senate Committee on Labor and Public Welfare.

Intestinal Obstruction in the New Born, Daniel J. Preston, M. D., Wilmington, Attending Surgeon, Delaware, St. Francis and Wilmington General Hospitals.

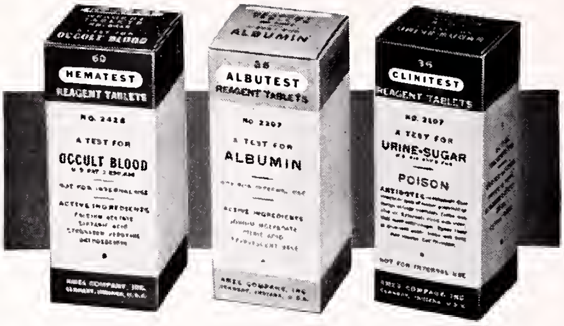
Discussion: Drs. O. A. James and R. O. Y. Warren.

The Present Status of Diabetes Mellitus, Lewis B. Flinn, M. D., Wilmington, Director of Medicine, Delaware and Memorial Hospitals.

Discussion: Dr. J. M. Barsky.

An Approach to the Problem of Alcoholism, C.

(*Concluded on Page 207*)



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Required by the Act of Congress of August 24, 1912, and March 3, 1933, of The Delaware State Medical Journal, Published monthly at Wilmington, Delaware, for October 1st, 1947

STATE OF DELAWARE }
COUNTY OF NEW CASTLE } S.S.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared M. A. Tarumianz, M. D., who, having been duly sworn according to law, deposes and says that he is the Business Manager of the Delaware State Medical Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation) etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912 as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

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The Medical Society of Delaware

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M. A. Tarumianz, M. D.
(Signature of Business Manager)

Sworn to and subscribed before me this 16th day of Sept., 1947.

Frank J. Corsano
(SEAL) Notary Public
(My commission expires August 1, 1949)

The Annual Session

(Concluded from Page 205)

Nelson Davis, M. D., Philadelphia, Physician in Charge, Saul Foundation, and Director of Research on Alcoholism, St. Luke's and Children's Hospitals. Introduction by George H. Gehrmann, M. D., Medical Director, DuPont Co.

Discussion: Drs. M. A. Tarumianz, E. R. Mayerberg, and H. T. McGuire.

Present Trends in Prepayment Medical and Hospital Care Plans, Harold V. Maybee, Wilmington, Managing Director, Group Hospital Service.

Discussion: Drs. V. D. Washburn, and James Beebe.

Presidential Address: New Light on the History of Medicine in Delaware, W. Edwin Bird, M. D., Wilmington.

Election of President for 1948.

Luncheon, Rainbow Room, Hotel Rodney. Members, guests, and Auxiliary. Guests of the Medical Society of Delaware.

Likewise, The Woman's Auxiliary met on October 14th with a business meeting, followed by a luncheon, at which the guest speaker was Mrs. Luther H. Kice, of Garden City, Long Island, President-Elect, Woman's Auxiliary, A. M. A. Then followed a panel discussion: "Why An Auxiliary," conducted by Ira Burns, M. D., Chairman of Advisory Committee.

The Auxiliary joined the Society at the Annual Banquet on the 14th and at the concluding luncheon on the 15th. Their officers serve till the end of 1948.

To judge from the comments, the program was very well received, the high spot being the address of Mrs. Shearon, who exposed the regimenters on the national stage who would enact their scheme for socialized medicine. She was heard with rapt attention.

The Society elected the following officers for 1948:

President, Howard S. Riggin, Seaford.
1st Vice-Pres., M. A. Tarumianz, Farnhurst.
2nd Vice-Pres., Henry V'P. Wilson, Dover.
Secretary, Gerald A. Beatty, Wilmington.
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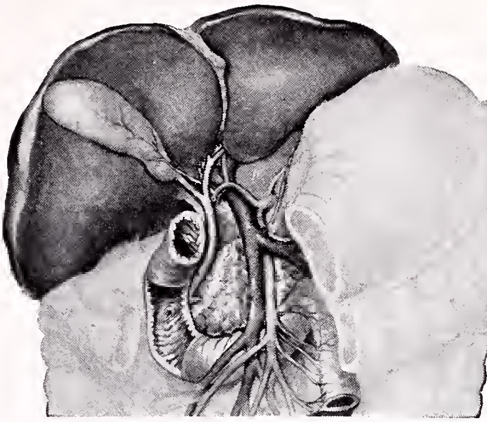
Alternate, A.M.A., Clyde C. Neese, Wilmington.

The next Annual Session will be held at Rehoboth, September 13-15, 1948.



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C. T. Lawrence, Jr., *Vice-President*
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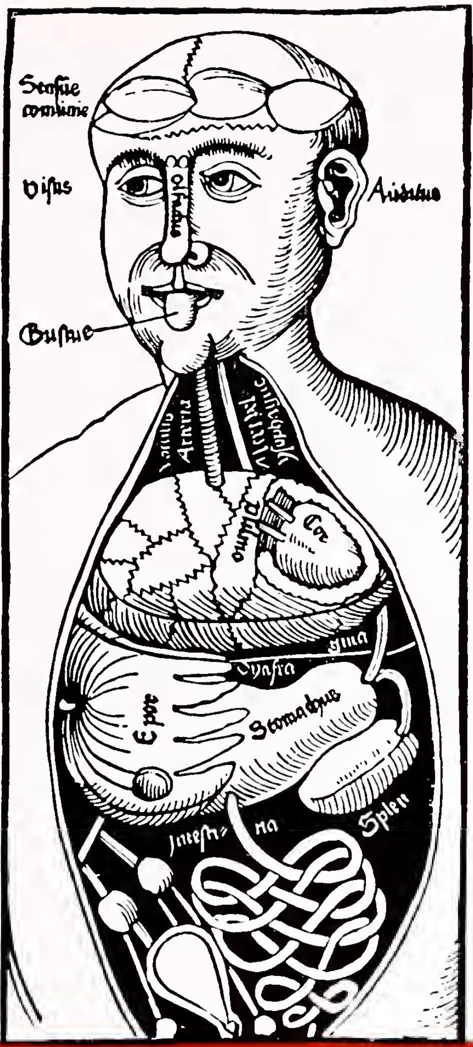

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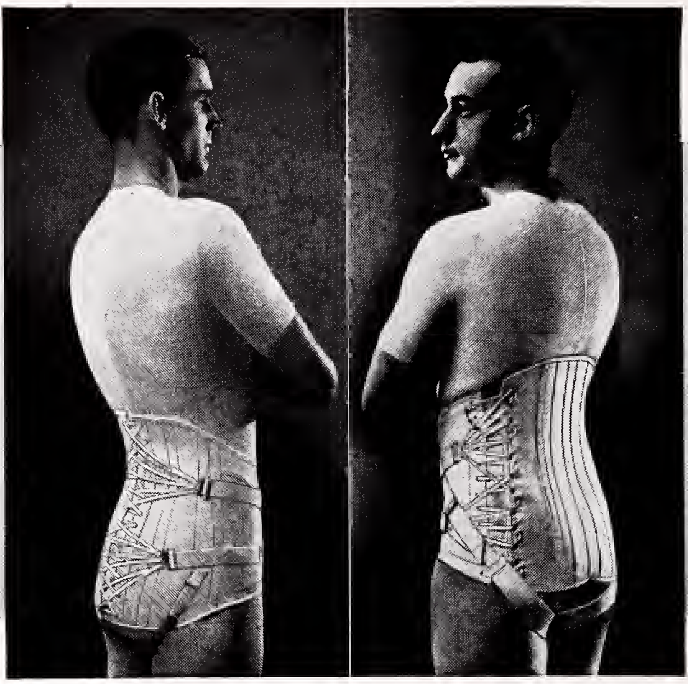

FIGURE 1 — Patient — thin type of build with beginning faulty body mechanics. The Camp adjustment provides a more stable pelvis, allowing patient to "draw in" the abdominal muscles thus gradually acquiring a gentle lumbar curve.

FIGURE 2 — Patient — intermediate type of build. Strain of lumbosacral joint predisposes to other strains. For protection of the joints in the lumbar region from recurrent strain and also as an aid in relieving the pain of acute conditions, Camp lumbosacral supports have proved effective.

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1. Feinberg, S. M.: Quart. Bull. Northwestern Univ. M. School 20: 398 (1946)

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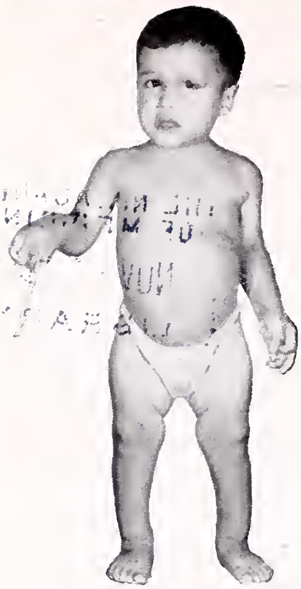

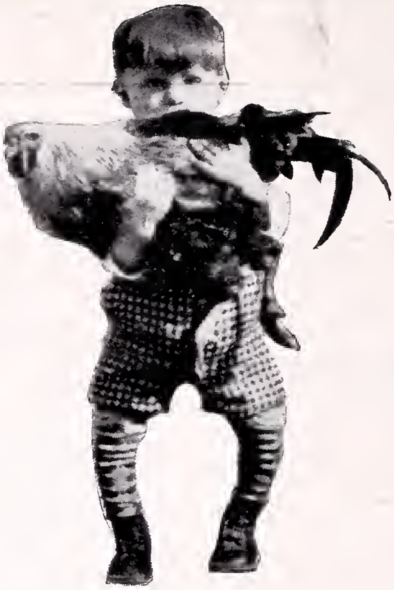

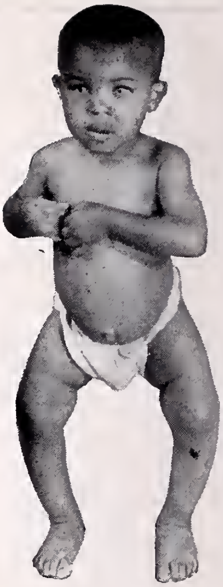

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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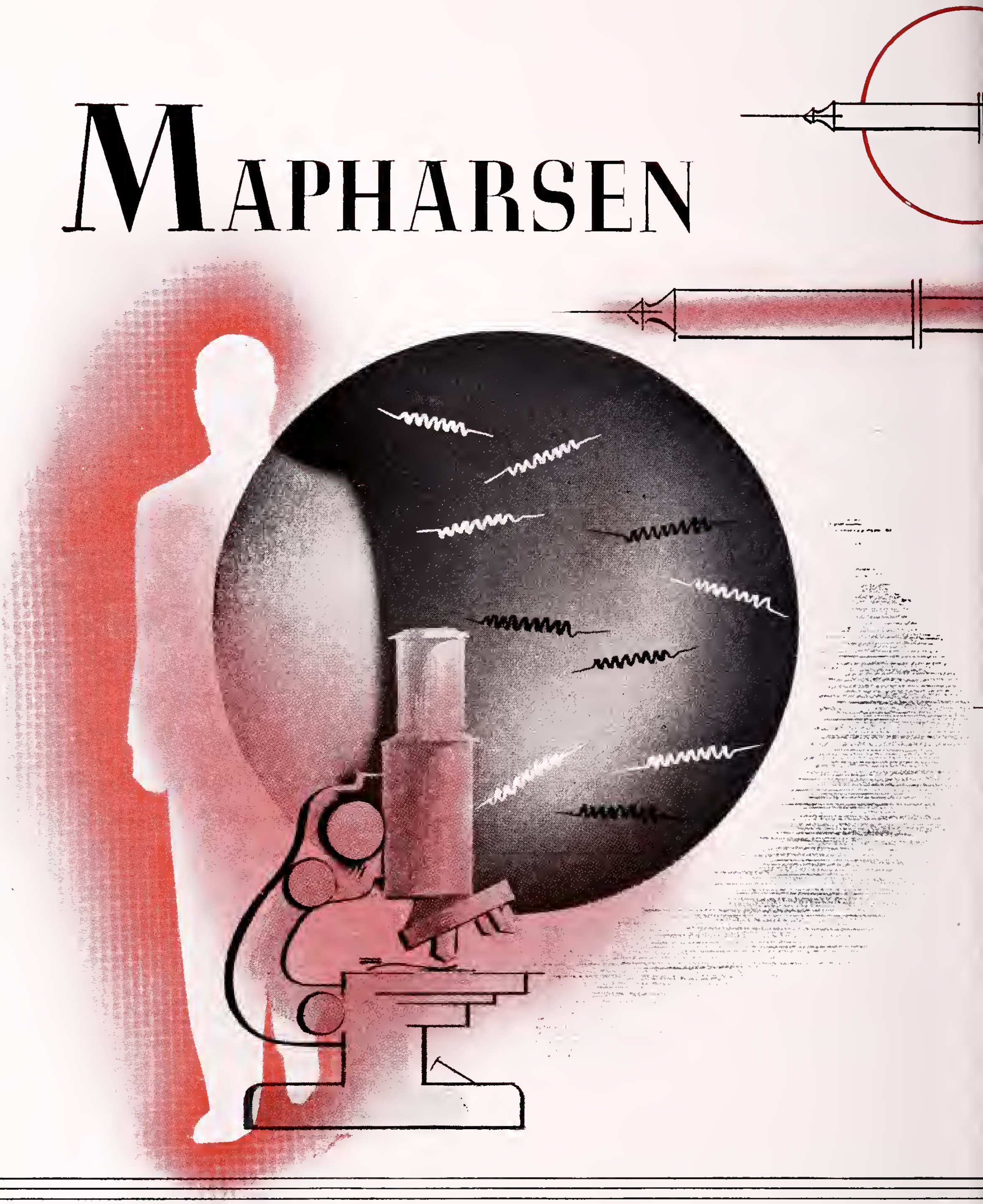

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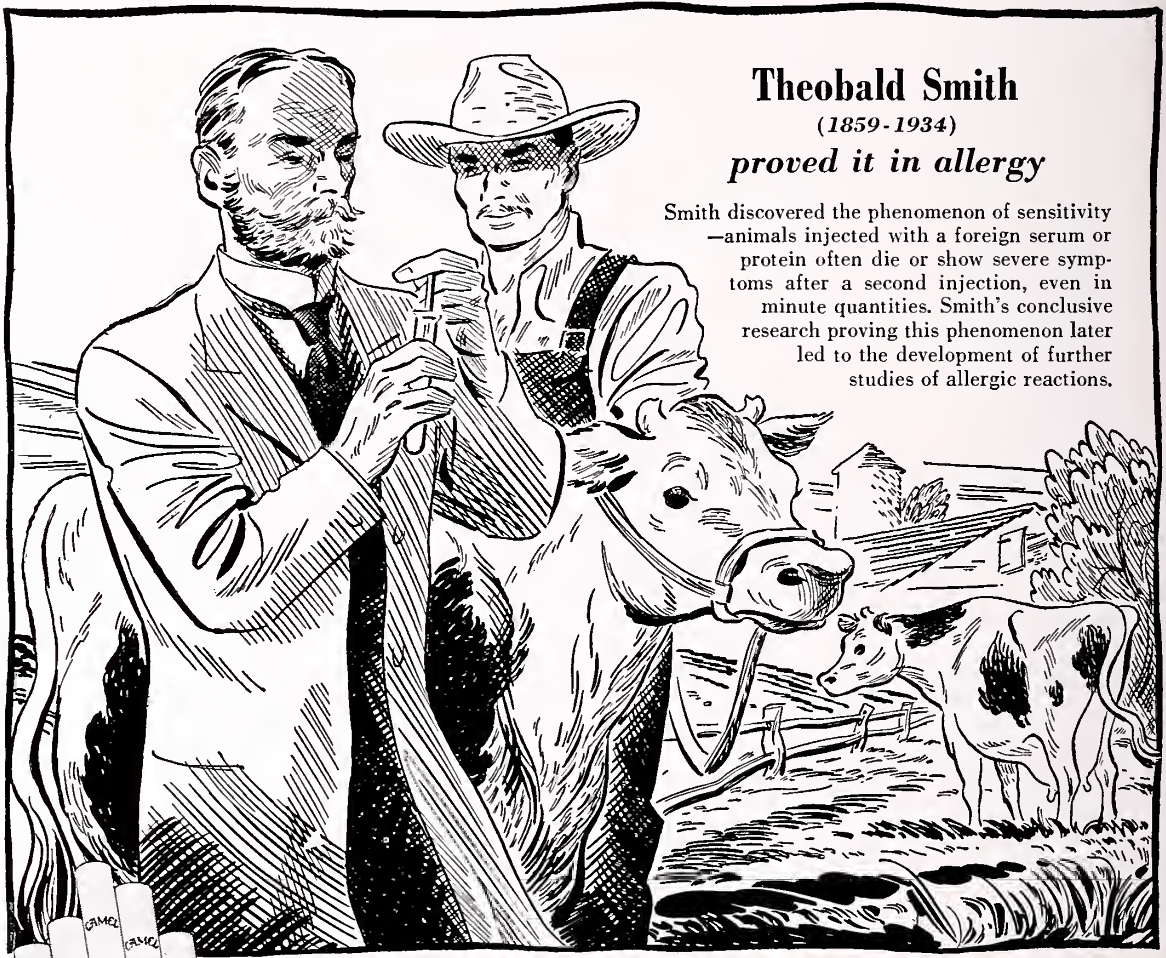

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Smith discovered the phenomenon of sensitivity —animals injected with a foreign serum or protein often die or show severe symptoms after a second injection, even in minute quantities. Smith's conclusive research proving this phenomenon later led to the development of further studies of allergic reactions.

Yes, and experience is the best teacher in smoking too!

EXPERIENCE during the wartime cigarette shortage taught smokers the differences in cigarette quality. In those days, people smoked —and compared—many different brands. That's the experience from which so many smokers learned that Camels suit them best. **As a result, more people are smoking Camels than ever before.**

Try Camels! Let *your* taste and throat tell you why, with millions who have tried and compared, Camels are the *choice of experience!*

According to a Nationwide survey:

MORE DOCTORS SMOKE CAMELS

than any other cigarette

R. J. Reynolds Tobacco Company, Winston-Salem, North Carolina

Not To Be Sneezed At

In the field of allergy, cosmetics are literally and figuratively not to be sneezed at, because they may be a causative or contributing agent in allergic cases. That is why when there is a history of allergy we suggest that patch tests be made with those of our products the subject is using or contemplates using. If they test positive, further testing with their constituents is indicated to determine the offending agents. These found, we frequently can modify our formulas to suit the subject's requirements. The patch test is generally considered best for testing cosmetics because it most closely approximates the conditions under which they are normally used.

While our products are free from so-called common cosmetic allergens, such as orris root and rice starch, we feel it should be made clear that any of their normally innocuous ingredients might be allergenic to the allergic individual. It is our practice to write our patrons a letter to this effect when a history of allergy is involved.

It is our experience that many persons with allergic constitutions cannot tolerate scented cosmetics; therefore we routinely recommend and select unscented products when there is a history or suspicion of allergy. This practice is not to imply or suggest that the subject is sensitized to perfume; it is solely to safeguard against the possibility.

In specific cases of allergy or suspected allergy, when the subject is using or contemplates using our products, we are pleased on his request to send her doctor the involved raw materials for patch testing, also such information concerning our products as may have a bearing on the case.

Since in the light of present knowledge it is not possible, save in specific cases, to make non-allergenic cosmetics, we believe the cosmetic requirements of the allergic individual should be considered by her doctor in the light of the formulas and general characteristics of the products she is using or contemplates using.

Luzier's Fine Cosmetics & Perfumes are selected to suit your practical cosmetic requirements and aesthetic preferences. They are made available to you by Cosmetic Consultants who assist you with the selection of suitable Luzier products and show you how to apply them to achieve the most becoming cosmetic effect.

Luzier's Inc., Makers of Fine Cosmetics & Perfumes

KANSAS CITY, MO.

"Beginner's luck" isn't always good

The good luck so often attributed to beginners can't be counted on in infancy. Here the "beginners" often meet insurmountable obstacles which have raised the proportion of infant deaths within the first 30 days to 62.1% of the total infant mortality.* During this hazardous first month proper selection of the first formula is therefore of vital importance.

'Dexin' has proved an excellent "first carbohydrate" because of its high dextrin content. It (1) resists fermentation by the usual intestinal organisms; (2) tends to hold gas formation, distention and diarrhea to a minimum, and (3) promotes the formation of soft, flocculent, easily digested curds. 'Dexin' *does* make a difference.

*Vital Statistics—Special Reports: Vol. 25, No. 12, National Office of Vital Statistics, Washington, D. C. (Oct. 15) 1946, p. 206.

'Dexin' HIGH DEXTRIN CARBOHYDRATE

BRAND

Composition—Dextrins 75% • Maltose 24% • Mineral Ash 0.25% • Moisture 0.75% • Available carbohydrate 99% • 115 calories per ounce • 6 level packed tablespoonfuls equal 1 ounce • Containers of twelve ounces and three pounds • Accepted by the Council on Foods and Nutrition, American Medical Association.

'Dexin' Reg. Trademark

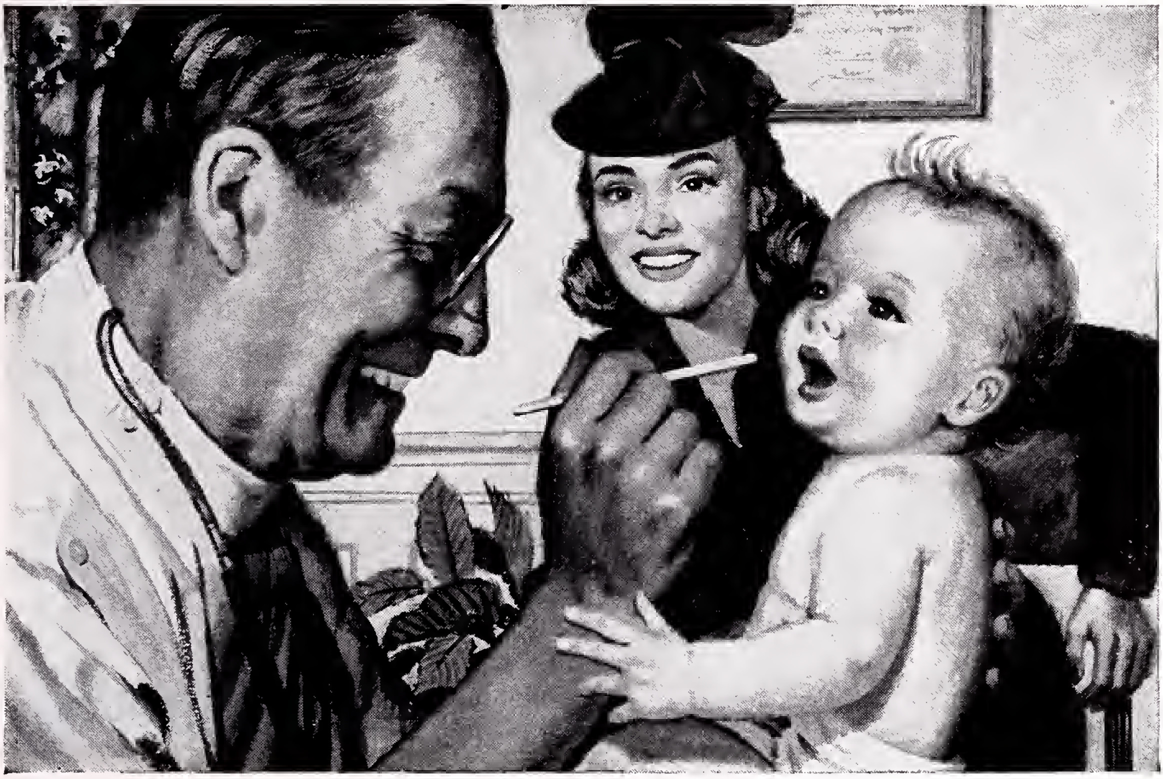
Literature on request

BURROUGHS WELLCOME & CO. (U.S.A.) INC., 9 & 11 East 41st St., New York 17, N. Y.

Your Job— And Ours:

To Build a Sound Foundation

Your careful supervision assures babies of that solid foundation of bone and tooth development so essential to healthy growth. We're glad to share a little of that responsibility by providing Nestlé's Evaporated Milk — recognized by the profession as a reliable "foundation-builder."



Nestlé's Has the "Know-How" to Produce a Good Product

- For 75 years, Nestlé's milk products have been best known, most used for babies 'round the world.
- Nestlé's was the *first* evaporated milk fortified with 400 U.S.P. units of genuine Vitamin D_3 per pint.
- Nestlé's accepts milk only from carefully inspected herds. As further assurance of quality, rigid controls check Nestlé's Milk every step of the way. We even take the plant apart every day and wash it!

NESTLÉ'S EVAPORATED MILK

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

WISCONSIN ALUMNI RESEARCH FOUNDATION APPROVED FOR VITAMIN D UPON PERIODIC TESTS

No wonder so many doctors recommend NESTLÉ'S Milk by name

NESTLÉ'S MILK PRODUCTS, INC., New York, U. S. A.

Facts regarding *fluidity* of PENICILLIN in oil and wax

When penicillin in oil and wax is to be used once daily, the most important consideration is the maintenance of therapeutic blood levels for 24 hours.

For easy administration and adequately sustained blood levels, the formula must be neither too viscous nor too fluid . . . the penicillin crystals of correct size, shape and density . . . the container appropriate to the use intended. The following should also be recognized:

1 For administration from multiple-dose vials, the mixture should be sufficiently fluid to permit easy withdrawal, accurate measurement and easy injection.

2 In all fluid preparations, however, the penicillin has a tendency to settle out. Unless the container has adequate air space and volume to permit resuspension of the settled penicillin by shaking, 24 hour blood levels may not be maintained. Either overdosage or underdosage may result.

3 When injected from individual-dose cartridges, the penicillin in oil and wax suspension should be of slightly thicker consistency. If it is not, and the penicillin settles out, it cannot be resuspended by shaking, because (a) the volume is too small, and (b) the cartridge has no air space.

4 The slightly heavier type of suspension can be easily injected in accurate dosage with a minimum of discomfort to the patient. It is essentially free-flowing at room temperature, and each cartridge contains a full 1 cc. (300,000 unit) dose, which eliminates the need of measuring.

In keeping with Squibb policy of making the form of the product appropriate to the use, two forms of Squibb Penicillin G in Oil and Wax are available. Each offers the advantages of proper formula and consistency.

For easy, individual injections in home, office and emergency:

SQUIBB PENICILLIN G IN OIL AND WAX

Essentially free-flowing at room temperature: in Double-cell Cartridges for use with B-D* disposable or permanent syringe.

*T. M. REG. BECTON, DICKINSON & CO.

For easy, mass injections in clinic, hospital, or office, the new 10 cc. vial of

SQUIBB LIQUID PENICILLIN G IN OIL AND WAX

Resuspension readily attained; easy to inject; no withdrawal difficulties.

recent definitive findings on

Benzedrine Sulfate

in the treatment of overweight

A conclusive study* on the action of amphetamine in weight reduction brings out four significant points:

1. With BENZEDRINE SULFATE "the obese subjects lost weight when placed on a diet which allowed them to eat all they wanted three times a day . . ." Later, these same overweight subjects continued to lose weight when allowed to eat—if they so desired—before retiring.

2. ". . . amphetamine definitely decreased the intake of food. . ."

3. ". . . amphetamine-induced loss of weight is almost entirely due to anorexia."

4. "No evidence of toxicity of the drug as employed in these studies was found."

*Harris, S.C.; Ivy, A.C., and Searle, L.M.: The Mechanism of Amphetamine-Induced Loss of Weight: *A Consideration of the Theory of Hunger and Appetite*, J.A.M.A. *134*:1468 (Aug. 23) 1947.

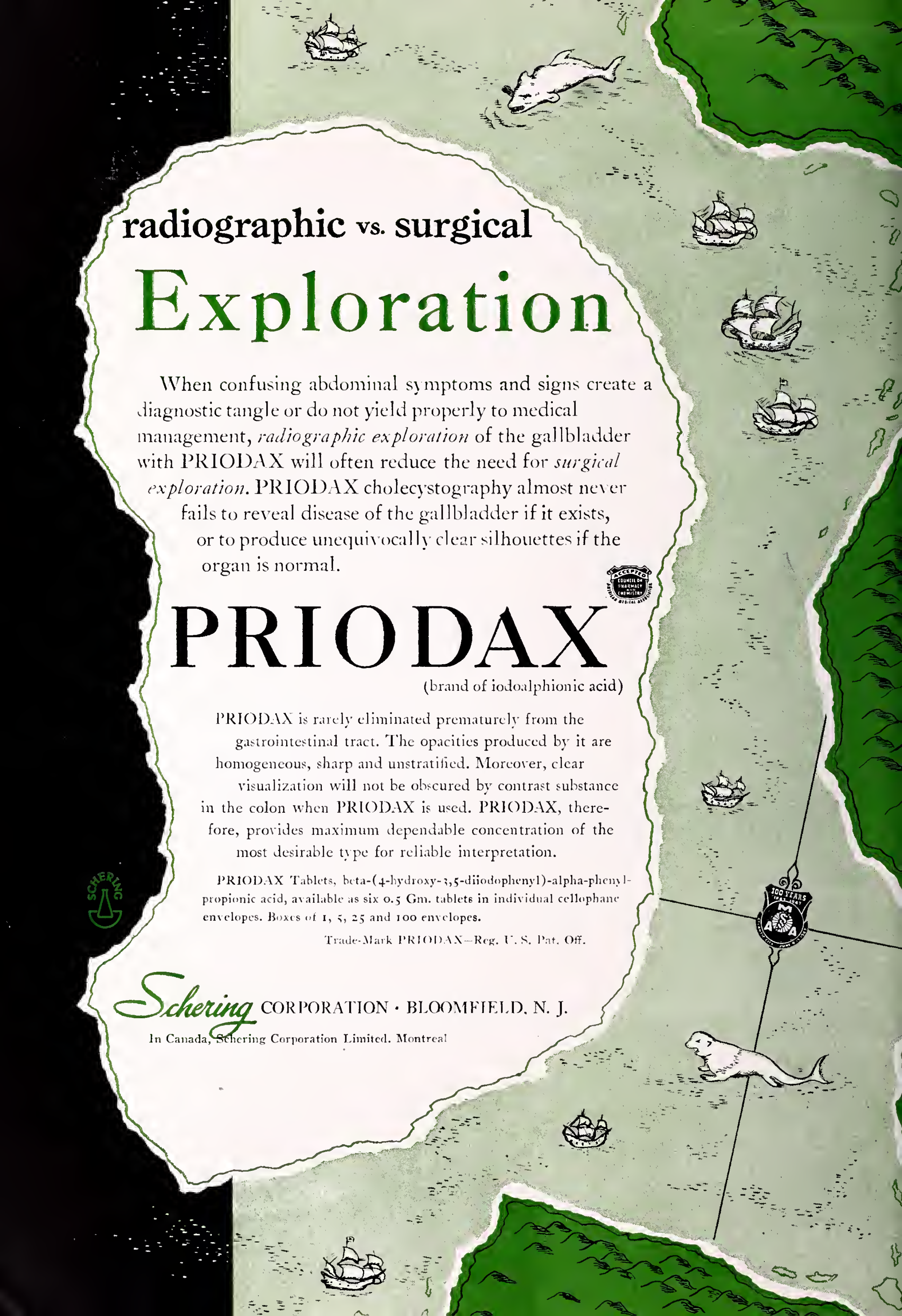
Benzedrine Sulfate

(*racemic amphetamine sulfate, S.K.F.*)

tablets capsules elixir

Accepted by the Council on Pharmacy and Chemistry of the AMA for use in treatment of overweight.

Smith, Kline & French Laboratories, Philadelphia



radiographic vs. surgical

Exploration

When confusing abdominal symptoms and signs create a diagnostic tangle or do not yield properly to medical management, *radiographic exploration* of the gallbladder with PRIODAX will often reduce the need for *surgical exploration*. PRIODAX cholecystography almost never fails to reveal disease of the gallbladder if it exists, or to produce unequivocally clear silhouettes if the organ is normal.

PRIODAX

(brand of iodoalphionic acid)

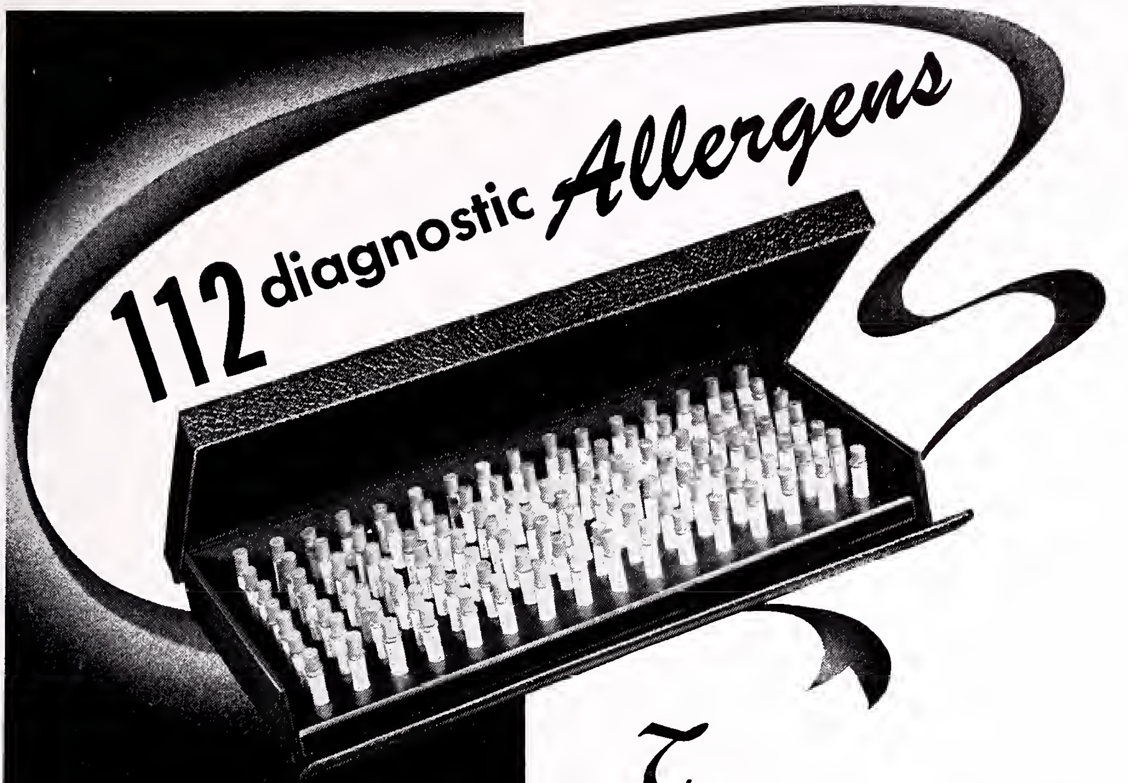
PRIODAX is rarely eliminated prematurely from the gastrointestinal tract. The opacities produced by it are homogeneous, sharp and unstratified. Moreover, clear visualization will not be obscured by contrast substance in the colon when PRIODAX is used. PRIODAX, therefore, provides maximum dependable concentration of the most desirable type for reliable interpretation.

PRIODAX Tablets, beta-(4-hydroxy-3,5-diiodophenyl)-alpha-phenyl-propionic acid, available as six 0.5 Gm. tablets in individual cellophane envelopes. Boxes of 1, 5, 25 and 100 envelopes.

Trade-Mark PRIODAX—Reg. U. S. Pat. Off.

Schering CORPORATION · BLOOMFIELD, N. J.

In Canada, Schering Corporation Limited, Montreal



FOOD ALLERGENS

Almond
Apple
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Brazil Nut
Broccoli
Buckwheat
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Cantaloupe
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Cauliflower
Celery
Cheese, American
Cheese, Swiss
Cherry
Chicken
Clam, Hard
Cocoa
Cocoanut
Codfish
Coffee
Corn
Crab
Cucumber
Duck
Eggwhite
Eggyolk
Flounder
Gelatin
Ginger
Grape (Raisin)
Grapefruit
Halibut
Herring
Honeydew
Lactalbumin
Lamb
Lettuce
Lima Bean
Lobster
Mackerel
Milk (Cow)
Mushroom
Mustard
Oat
Onion
Orange
Oyster
Pea
Peanut
Pecan
Pepper (Red, Green)
Perch
Pike
Pineapple
Pork
Potato
Prune (Plum)
Pumpkin
Quince Seed
Radish
Rice
Rye
Salmon
Sardine
Scallop
Shrimp
Soy Bean
Spinach
Strawberry
Sweet Potato
Tomato
Tuna Fish
Veal
Walnut (English)
Wheat
Whitefish (Lake)
Yeast

INCIDENTAL ALLERGENS

Cotton Seed
Dust
Flaxseed
Glue
Gum Karaya
Kapok
Orris Root
Pyrethrum
Silk
Tobacco

EPIDERMAL ALLERGENS

Cat Hair
Cattle Hair
Dog Hair
Goat Hair
Feathers, mixed
Hog Hair
Horse Dander
Rabbit Hair
Sheep Wool

FUNGUS ALLERGENS

Alternaria sp.
Aspergillus fumigatus
Chaetomium sp.
Cladosporium
Epidermophyton inguinale
Hormodendron
Monilia sitophila
Mucor plumbeus
Penicillium digitatum
Trichophyton interdigitale

Arlington

There is increasing evidence that, in asthma, gastrointestinal allergies, infantile eczema, migraine, etc., treatment of allergic sensitivities is yielding gratifying results.

To facilitate diagnosis, Arlington offers a specially prepared assortment of 112 diagnostic allergens representing the most commonly reported causative factors . . . foods, epidermals, fungi and incidentals. Each vial contains sufficient material for at least 30 tests. Full instructions for the simple scratch-test technique and a supply of N/20 NaOH are included.

These dry allergens remain active indefinitely at room temperature. The allergens listed represent the standard Arlington selection. If preferred you may make your own selection of 112 allergens from our current list, available upon request.

$35.00 ALLERGY DIAGNOSTIC SET

Biological Division
THE ARLINGTON CHEMICAL COMPANY
YONKERS 1 NEW YORK

1. Extensive clinical experience has established that the combined use of an occlusive diaphragm and a spermatocidal jelly affords the optimum in protection to the patient.

2. A comprehensive report shows an overwhelming preference for the diaphragm-jelly technique of conception control. In a survey comprising 36,955 cases, clinicians prescribed this method for 34,314 or 93 per cent.[1]

3. Warner,[2] in a study of 500 cases in private practice, concludes that the combined technique is the most efficient method; there was no case of unexplained failure.

4. For the optimum of protection and simplicity in use we suggest the "RAMSES" Prescription Packet NO. 501 . . . a complete unit, containing a "RAMSES" Patented Flexible Cushioned Diaphragm of prescribed size, a "RAMSES" Diaphragm Introducer of corresponding size, and a large tube of "RAMSES" Vaginal Jelly.† Available through all prescription pharmacies. Complete literature to physicians on request.

[1] Human Fertility 10: 25 (Mar.) 1945.

[2] Warner, M. P.: J.A.M.A. 115: 279 (July 27) 1940.

gynecological division
JULIUS SCHMID, INC. 423 W. 55th ST. • NEW YORK 19, N. Y.
quality first since 1883

The word "RAMSES" is a registered trademark of Julius Schmid, Inc.

†Active ingredients: Dodecaethyleneglycol monolaurate 5%; Boric Acid 1%; Alcohol 5%.

A MARK OF Ramses DEPENDABILITY

MEAT

And Protein Deficiency

While protein deficiencies per se are difficult to recognize in their incipiency, conditions which lead to negative nitrogen balance are well known. The presence of any of the following states which characteristically exert an adverse influence on nitrogen balance, calls for immediate measures to prevent serious protein depletion:

1. Diseases of the digestive organs, which impair proper digestion and absorption.
2. Wasting diseases, infections and thyrotoxicosis, which increase protein breakdown and need far above normal levels.
3. Hemorrhage, burns, and chronic exudative processes, causing excessive loss of protein.

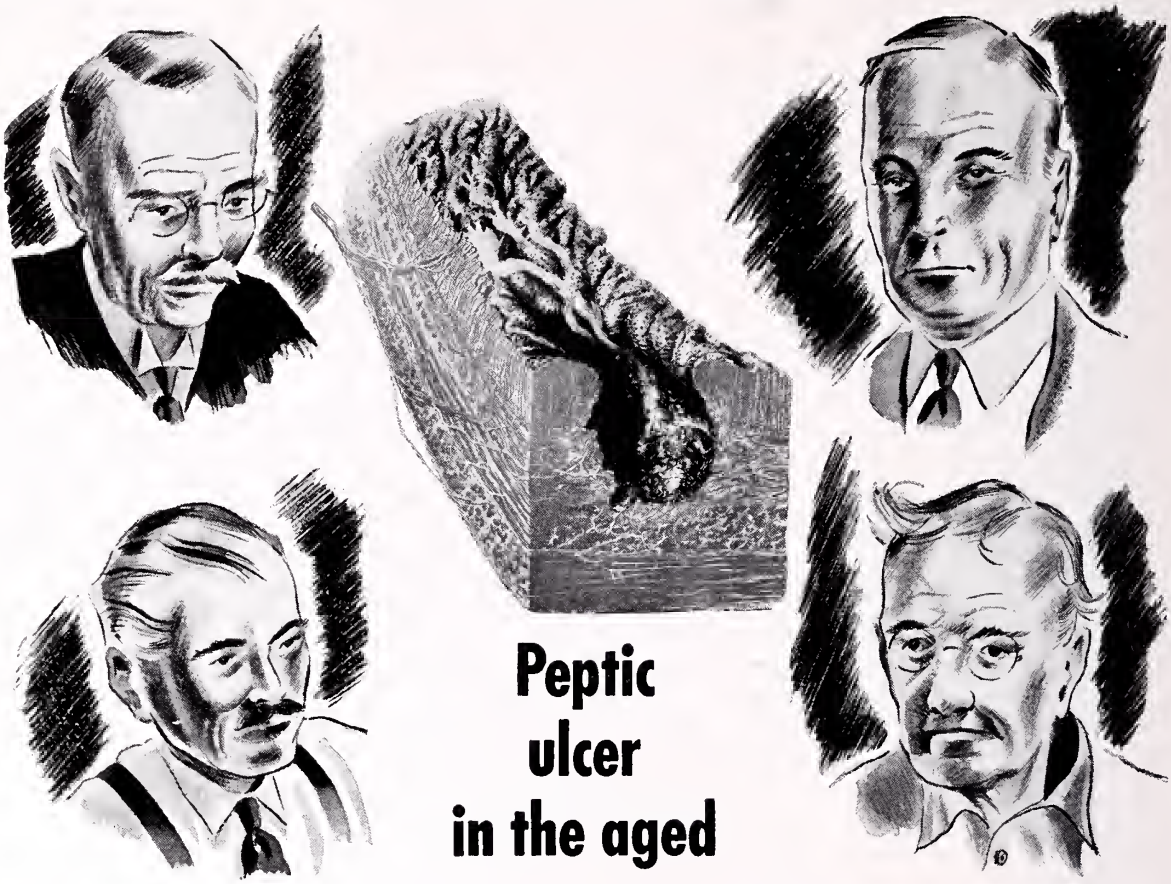
A high protein diet, whenever possible, is considered to be the most effective method of protein administration in the prevention and correction of protein deficiencies.

Meat, which readily is eaten two or more times daily, is an excellent component of the high protein diet. Meat is an outstanding source of protein for the following reasons. The protein of meat is biologically complete, capable of satisfying the body's protein needs. The percentage of protein contained in meat makes it one of man's most important protein foods. And, all meat is highly digestible—96 to 98 per cent—an important consideration especially in the presence of disease.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN MEAT INSTITUTE

MAIN OFFICE, CHICAGO . . . MEMBERS THROUGHOUT THE UNITED STATES



Peptic ulcer in the aged

Recent statistics indicate that more than 10 per cent of all peptic ulcers occur in persons past the age of 60. Except for a greater tendency to bleed, ulcers in the aged are no different from those in younger persons and require essentially the same therapeutic program of rest, diet and acid neutralization.

Creamalin, the *first* aluminum hydroxide gel, readily and safely produces sustained reduction in gastric acidity. With Creamalin there is no compensatory reaction by the gastric mucosa, no acid "rebound," and no risk of alkalosis. Through the formation of a protective coating and a mild astringent effect, nonabsorbable Creamalin soothes the irritated gastric mucosa. Thus it rapidly relieves gastric pain and heartburn, and helps in the healing of peptic ulcers as well as in the prevention of a recurrence.

Creamalin®

***First* Brand of Aluminum Hydroxide Gel**
Supplied in 8 fl. oz., 12 fl. oz. and 16 fl. oz. bottles

Winthrop-Stearns INC.
NEW YORK 13, N. Y. WINDSOR, ONT.

The businesses formerly conducted by Winthrop Chemical Co., Inc.
and Frederick Stearns & Co. are now owned by Winthrop-Stearns Inc.

The years melt away

(as the years always do)

As your years dwindle down—as everybody's must—you'll need more than affection and companionship.

You'll need a place to live and food to eat. Which means you—not the family next door, but *you*—will need money.

There's only one way for most of us to get money—that's to save it. And for most of us, too, the best way to save money is through U. S. Savings Bonds.

Because U. S. Savings Bonds are the most widely and easily available investment to every citizen. Every bank sells them. Every post office sells them.

AND—most important—you can buy them *regularly* and *automatically* . . . which helps overcome human inertia and reluctance to save.

To do so, you just sign up for the Payroll Savings Plan where you work, or for the Bond-A-Month Plan at the bank where you have a checking account. Then they really pile up.

Of course, there are other reasons for buying U. S. Savings Bonds.

They're SAFE. Backed by the credit of the United States, that's all.

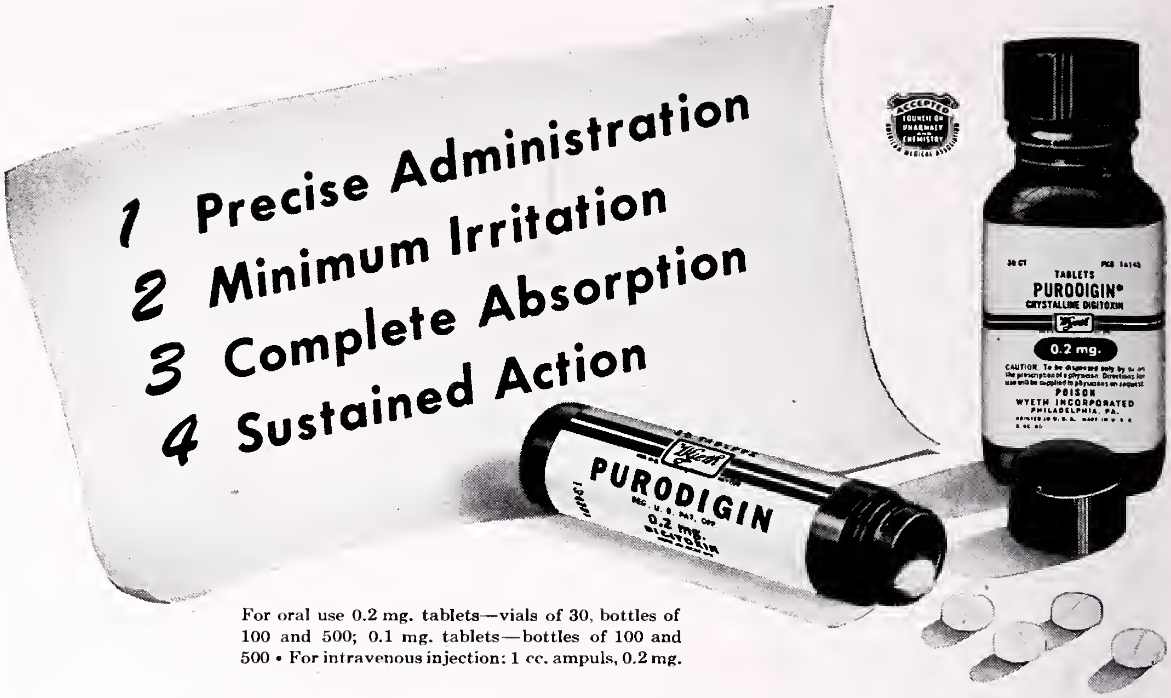
They're PROFITABLE. You get 4 dollars out for 3 put in, after 10 years.

They're LIQUID. Like water. You can get your cash out of them at any time . . . in a few minutes . . . without penalty.

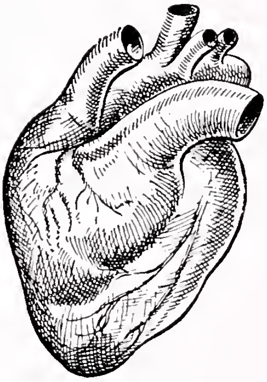
Remember those words "melt away." They say better than a volume of statistics that you have less time than you think, to save.

Save the easy, automatic way—with U.S. Savings Bonds

Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.



For oral use 0.2 mg. tablets—vials of 30, bottles of 100 and 500; 0.1 mg. tablets—bottles of 100 and 500 • For intravenous injection: 1 cc. ampuls, 0.2 mg.



Purodigin has these advantages:

PRECISE DOSAGE: Purodigin (Digitoxin Wyeth) is absolutely uniform . . . standardized by weight, prescribed by weight.

LACK OF IRRITATION: Purodigin is concentrated—dosage is only *one thousandth* that of digitalis leaf. Nausea is rare.

ABSORPTION of Purodigin is virtually complete. Almost no irritating residue is left in the digestive tract.

SUSTAINED ACTION: Purodigin remains in the body as long as digitalis.

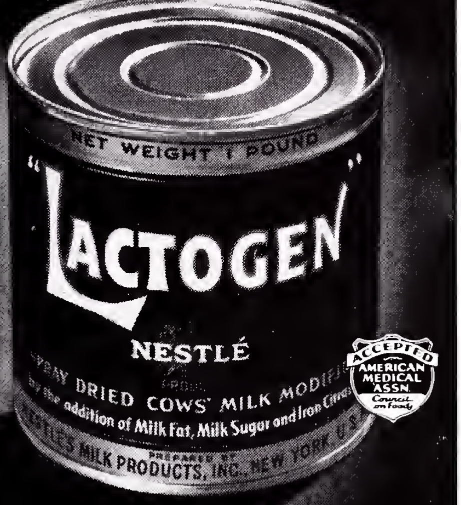
Try Purodigin—especially for those patients who do not easily tolerate digitalis leaf. Without interrupting treatment, simply prescribe 0.1-0.2 *milligram* Purodigin in place of 0.1-0.2 *gram* digitalis.

PURODIGIN®

CRYSTALLINE DIGITOXIN

Wyeth ®

WYETH INCORPORATED • PHILADELPHIA 3, PA.


NET WEIGHT 1 POUND
"LACTOGEN"
NESTLÉ
SPRAY DRIED COWS' MILK MODIFIED
by the addition of Milk Fat, Milk Sugar and Iron Citrate
PREPARED BY
NESTLÉ'S MILK PRODUCTS, INC., NEW YORK, U.S.
ACCEPTED
AMERICAN MEDICAL ASSN.
Council on Foods

LACTOGEN +	WATER =	FORMULA
1 LEVEL TABLESPOON	2 OUNCES	2 FLUID OUNCES
40 CALORIES (APPROX.)		20 CALORIES PER OZ. (APPROX.)

Successful in Infant Nutrition

DEXTROGEN +	WATER =	FORMULA
1 FLUID OUNCE	1½ OUNCES	2½ FLUID OUNCES
50 CALORIES		20 CALORIES PER OUNCE

No advertising or feeding directions, except to physicians. For feeding directions and prescription pads, send your professional blank to

Nestlé's Milk Products, Inc.

155 EAST 44TH ST., NEW YORK, 17, N. Y.

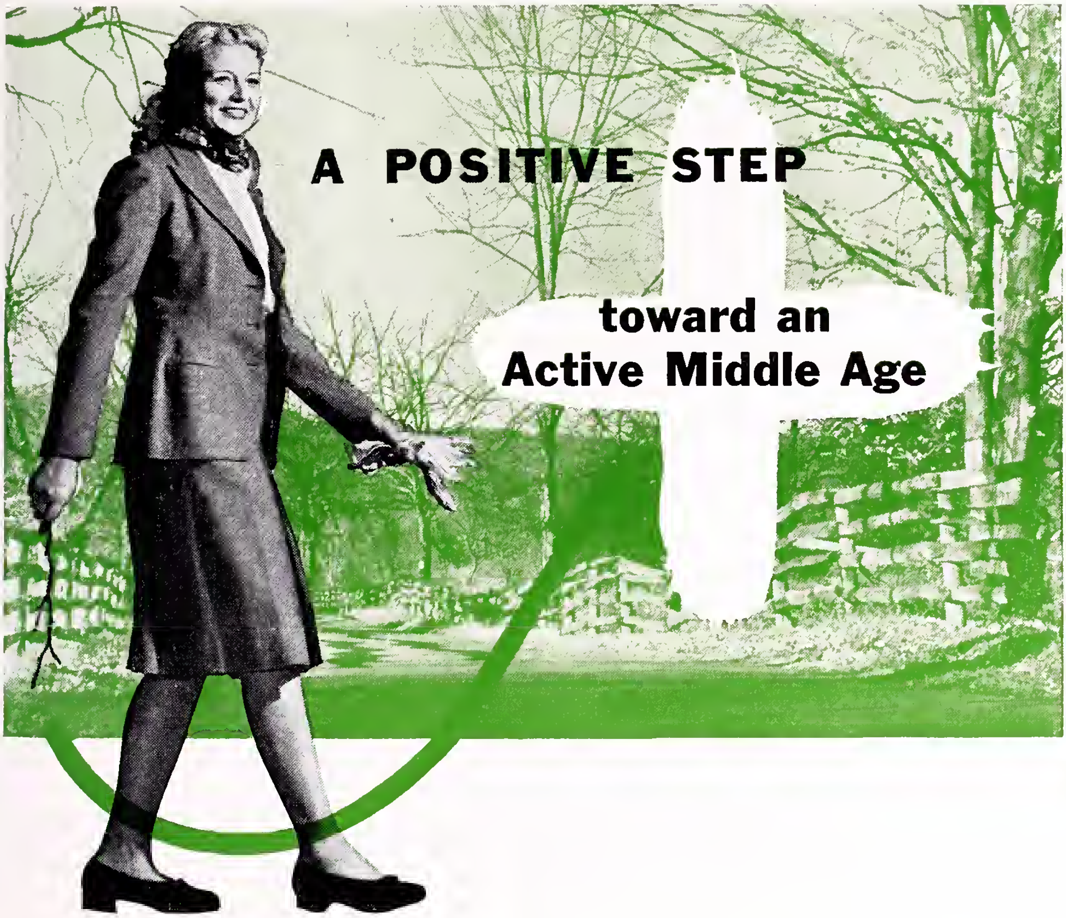
Exacting head linesman ....

dietary dub!

He sees that first-downs are measured accurately, but he lets his diet be measured by the whims of his appetite. Sooner or later he faces the penalty of subclinical vitamin deficiency—along with a host of other self-made victims: *food-faddists*, excessive smokers, alcoholics, those on self-imposed and ill-advised reducing diets, patients "too busy" to eat properly, to name only a few. When such patients come to you, dietary reform is your first thought. Your second may well be a suitable vitamin supplement. For these cases, consider the advantages of specifying Abbott Vitamin Products: known quality . . . assured potency . . . wide variety to fit every vitamin need—in supplemental or therapeutic levels of dosage, in oral or parenteral forms, in single or multiple vitamin preparations. Abbott Vitamin Products are readily available at all prescription pharmacies.

ABBOTT LABORATORIES, NORTH CHICAGO, ILLINOIS

. . . . SPECIFY **Abbott Vitamin Products**



Outstanding clinical endocrinologists, both here and abroad, have commented on the brighter mental outlook displayed by women receiving "Premarin." Not only does "Premarin" impart a feeling of "well-being" but it offers many other advantages as well.

It is orally active.
It is well tolerated.
It is promptly effective in controlling the menopausal syndrome.

"Premarin" is supplied in three potencies—tablets of 2.5 mg., 1.25 mg. and 0.625 mg. It is also available in liquid form containing 0.625 mg. in each 4 cc. (1 teaspoonful).

While sodium estrone sulfate is the principal estrogen in "Premarin," other equine estrogens . . . estradiol, equilin, equilenin, hippulin . . . are also present in varying small amounts, probably as water-soluble sulfates. The water solubility of conjugated estrogens (equine) permits rapid absorption from the gastrointestinal tract.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Ayerst

CONJUGATED ESTROGENS (equine)

"Premarin"®

AYERST, McKENNA & HARRISON Limited

22 EAST 40th STREET • NEW YORK 16, N. Y.

ISO-PAR

—OINTMENT—

Contains 17% Iso-Par (14 parts Iso-Paraffinic Acids, C_6-C_{16}, Av. Mol. Wt. 174 modified by 3 parts Mixed Amine Salts, principally 2-Hydroxy-5-Iso-Octyl-N, N-Dimethyl Benzylamine Salts of Iso-Paraffinic Acids, i.e., Iso-Octyl-Hydroxy-Benzyl-Dimethyl-Ammonium-Iso-Paraffinate), Cetyl Alcohol, Beeswax, Titanium Dioxide, Lanolin, Petrolatum, Essential Oils.

indicated in

OTITIS EXTERNA

The reason for Iso-Par efficacy in the treatment of this disease is readily seen by consideration of the ointment's recognized properties

FUNGICIDAL
BACTERICIDAL

ACCEPTED
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STIMULATING
ANTIPRURITIC

BIBLIOGRAPHY:

REARDON, W. T.: The use of Iso-Par Ointment in the treatment of Otitis Externa,
Archives of Otolaryngology, March, 1947
Delaware Medical Journal, November, 1947 (this issue)
New and Nonofficial Remedies, 1946: 135-136

Available at pharmacies. Supplied in 1 oz. and ½ oz. jars.

Samples and literature will be furnished upon request.

MEDICAL CHEMICALS, INC.

406 EAST WATER ST. BALTIMORE 2, MARYLAND

Lilly
DISTILLED WATER
STERILIZED
LILLY AND COMPANY
INDIANAPOLIS, U. S. A.
100 No. 222
Pulvules
SODIUM AMYTAL
3 grs. (0.2 Gm.)
(Sodium Iso-amyl Ethyl Barbiturate, Lilly)
WARNING—May be habit forming.
Not for Intravenous Use
For use in the preoperative preparation of surgical cases.
CAUTION—To be dispensed only by or on the prescription of a physician.
To enable physicians and pharmacists to identify this product as of Lilly manufacture, each capsule is inscribed with the trade-mark 'Pulvules.'
ELI LILLY AND COMPANY
INDIANAPOLIS, U. S. A.
100 No. 111
Pulvules
SODIUM AMYTAL
1 gr. (0.065 Gm.)
(Sodium Iso-amyl Ethyl Barbiturate, Lilly)
WARNING—May be habit forming.
ELI LILLY AND COMPANY
INDIANAPOLIS, U. S. A.

Dependable,

TIME-TRIED

CHARACTERIZED by high therapeutic index, moderate duration of action, and a relatively wide margin of safety, 'Sodium Amytal' (Sodium Iso-amyl Ethyl Barbiturate, Lilly) is an excellent, time-tried barbituric acid product. It is of definite value in all fields of medicine, including surgery and obstetrics. 'Sodium Amytal' is supplied in a large variety of dosage forms and is available on prescription at leading drug stores everywhere.

ELI LILLY AND COMPANY

INDIANAPOLIS 6, INDIANA, U. S. A.

Illustration by Harold Anderson

Clean Food Merchant

THE FIFTIETH ANNIVERSARY of certified milk passed unnoticed a few years ago. Although certification has been largely replaced by pasteurization, it was nevertheless an important beginning in the milk purification program. History reveals that during this period, outbreaks of human disease resulting from either certified or pasteurized milk have been extremely rare. To the medical profession goes much of the credit for the development and supervision of milk sanitation through local medical milk commissions. Fifty-three years ago the Lilly Policy was established. It provides that only products of the highest quality and unvarying potency be produced; that the company shall contribute to the progress of medicine by developing new and superior agents through research; and that information about the uses of the products of Eli Lilly and Company be issued through professional channels exclusively. Since the adoption of the Lilly Policy, the company has been managed strictly in accordance with its provisions.

DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
Owned and Published by the Medical Society of Delaware

VOLUME 19
NUMBER 11

NOVEMBER, 1947

Per Copy, 50c
Per Year, $4.00

DIAGNOSIS OF BULBAR POLIOMYELITIS*

George J. Boines, M. D.,**
Wilmington, Del.

Partial or complete involvement of any of the cranial nerve nuclei in a poliomyelitis patient is referred to as bulbar poliomyelitis. The most frequent cranial nerves involved are (1) the eleventh, with paralysis of the sternomastoid muscles and in some cases the patient is unable to shrug the shoulder on the affected side or he may not be able to raise the arm past the first 90° of abduction. This motion is accomplished by scapular rotation thru the accessory innervated upper trapezius. (2) Involvement of part of the tenth cranial nerve, with thickness of speech, paralysis of swallowing and regurgitation of fluids through the nose due to paralysis of the palate. (3) The ninth, with loss of the gag or cough reflex of the pharynx, and collection of fluids in the throat. (4) The seventh, with paralysis of the entire side of the face. Facial paralysis may be complete involving the forehead, inability to close the eyes, and retraction of the normal side of the face when the patient is asked to show his teeth.

Table I is a brief outline of the cranial nerves and their most important actions.

TABLE I

	Nerve	Type	Action
I	Olfactory	Sensory	Smell
II	Optic	Sensory	Sight
III	Oculomotor	Motor	Eyeball Muscles except 4 and 6; upper lid, constrictor of pupil and muscles (ciliary) of accommodation. Paralysis causes ptosis of the eyelid; eye deviates out and downward; diplopia; pupil is fixed to light and accommodation.
IV	Trochlear	Motor	Superior oblique moves eye down and out.
V	Trigeminal	M&S	Muscles of mastication. Sensation to face and mucous membrane of conjunctiva, nose, mouth, tongue and uvula. Also taste fibers to anterior 2/3 of tongue.
VI	Abducens	Motor	External rectus moves eye outward.
VII	Facial	M&S	Facial muscles except those supplied by the 5th. Paralysis causes inability to wrinkle forehead, to close eye, whistle, or blow out the cheeks.
VIII	Acoustic	Sensory	Hearing and equilibrium. Paralysis causes tinnitus and mystagmus.
IX	Closopharyngeal	M&S	Gas reflex and taste to posterior 1/3 of tongue.
X	Vagus	S&M	Supplies heart, lungs, respiratory system, and all abdominal organs except pelvis. Controls speech, swallowing and soft palate.
XI	Spinal Accessary	Motor	Trapezius and sternomastoid. If paralyzed, cannot shrug shoulders or lift head.
XII	Hypoglossal	Motor	Muscles of the tongue. Tongue deviates to paralyzed side.

Patients with acute poliomyelitis are classified into types according to the severity and degree of involvement as follows:

1. **Abortive.** It is well recognized that the symptoms of poliomyelitis vary according to the severity of the disease. For example, during an epidemic in the summer months one expects to see a number of patients who give the history of sudden onset, malaise, fever, upper respiratory infection and possible nausea

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* Read before the Medical Society of Delaware, Dover, October 8, 1946.

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and vomiting. Symptomatic treatment brings about complete recovery within a week. Such a patient could easily have been the victim of an abortive type of the disease. However, since we do not have a method of virus diagnosis, we classify this as an upper respiratory infection.

2. **Non-Paralytic.** When the symptoms described above are followed by headache, drowsiness, muscle tenderness, hyperesthesia, stiffness of the neck, back, hamstrings and calf muscles, then the picture is one of non-paralytic poliomyelitis. The deep reflexes may be diminished or absent, and muscle twitching or fasciculation may be present which further strengthens the diagnosis. The patient is usually unable to sit up without leaning backward and supporting himself by placing both hands on the bed in back of him.

3. **Paralytic-Spinal.** In the spinal paralytic patient, all the above symptoms are present in addition to definite muscle weakness or paralysis of some muscle groups which comes on suddenly and is usually asymetrical. There may be urinary retention if the bladder is involved.

4. **Bulbar** Involvement of one or more of the cranial nerves in Table I.

5. **Paralytic-Bulbo-Spinal.** In some patients there is paralysis of the spinal nerves as well as the bulbar in which cases all of the above symptoms may be present.

6. **Paralysis-Respiratory.** This type is usually fatal. It may start as the Landry's type of paralysis beginning with the lower extremities and rapidly ascending to involve the bulbar area and respiratory center with complete loss of chest movement, and cyanosis, ending with death. Supportive therapy, oxygen in high concentration, and the respirator are employed. Penicillin is always given to avoid pulmonary infection. The normal acts of inspiration and expiration are accomplished rhythmically and without effort. When the innervation of these muscles is interfered with, then the accessory muscles come into action.

Some spinal paralytic patients suddenly become confused, comatose, and the chest completely paralyzed within 3-7 days from the onset. Death follows. The brain shows encephalitic involvement. Involvement of the brain or medulla with signs of encephalitis, respiratory or circulatory collapse are dangerous signs.

Another respiratory type which is more hopeful is that which is at first a mild bulbar and in 3-4 days from the onset the intercostals become involved and the diaphragm goes into spasm so that the chest is kept in a state of inspiration and the patient is unable to exhale. This type responds to present day methods of muscle relaxation and the use of oxygen.

Still another type of paralysis affects first the lower extremities and then rapidly spreads to involve the entire spinal cord from the second cervical down. The medulla is spared and no cranial nerves are involved. The patient is completely paralyzed from the chin down. Good response is made with modern treatment.

Table II shows the distribution of paralysis in 90 paralytic cases in the acute stage. It is evident that the lower extremities head the list in being the most susceptible part of the anatomy. The upper extremity is second, and the sternomastoid is third. Paralysis of swallowing and speech is very frequent in the bulbar type. At the end of the table one can compare the high percentage of return of power by noting the number of parts still incapacitated by May 31, 1946.

TABLE II

	1941	1942	1943	1944	1945	Tl.
PARALYTIC-Spinal	9	4	4	39	11	67
PARALYTIC-Bulbar	1	2	0	16	4	23
MUSCLES PARALYZED						
Upper Extremities	3	4	3	11	3	24
Lower Extremities	8	6	4	48	11	77
Face	0	0	0	4	0	4
Sternos	0	2	0	16	1	19
Speech	0	2	0	16	1	19
Swallowing	0	2	0	10	1	13
Abdomen	0	1	1	6	2	10
RESPIRATORY						
Expired	1	0	0	4	3	8
RESIDUAL-May 31, 1946						
Upper Extremity	1	0	0	2	0	3
Lower Extremity	5	1	2	9	2	19
Abdomen	0	0	0	1	0	1

It will be noted that of the 90 paralytic cases, 67 (75%) were spinal and 23 or 25% were bulbar involvements. There were eight deaths (34%) of the 23 bulbars. It is also worthy of note that all of the bulbar symptoms recovered fully as of May 31, 1946. Most bulbar symptoms clear rapidly under careful nursing care, suction and oxygen. One of the 1944 cases (a female, age 39) required a gastrostomy for feeding, three weeks after admission.

The laboratory is of little value in the diagnosis of poliomyelitis from the standpoint of positive findings. In bulbar cases, the spinal fluid usually showed a pleocytosis. Table III shows the distribution of these patients according to type of paralysis and number of lymphocytes or polys present.

TABLE III

Total in Years	1 to 7	8 to 14	15 to 21	22 & over	Total
Bulbar Recovered	2 (4L) (180L)	3 (48L) (3L) (90L)	1 (709P)	0	6
Bulbar Expired	2 (20L) (70L)	1 (356P)	0	1 (600L)	4
Paralytic Expired	0	1 (500P)	0	1 (131P)	2
Totals	4	5	1	2	12

The rapid development of symptoms in the bulbar cases must be kept in mind, because if these cases can be hospitalized early it may be possible to save the patient with the judicious use of special nursing care and treatment. In order to emphasize the speed with which the virus destroys the nervous system the following case reports are cited:

1. J. M., a white male aged 15 years, was first taken ill on August 9, 1941, with malaise, fever, restlessness, insomnia, and pain in the back of the neck with no evidence of paralysis. On August 13 he was hospitalized in a semi-stuporous condition with complained weakness of the left leg. The knee jerks were positive, as was the Kernig's sign on the left; the Babinski and Oppenheim signs were negative. The patient was extremely restless, very confused, and answered questions with a weak voice. He did not respond to stimulation and oxygen inhalation. Suddenly he became pale then cyanotic and dyspneic, became unconscious and expired the same day. Laboratory studies were of no significance. The autospy revealed marked edema of the spinal cord, especially in the cervical part, enlargement of the spleen and generalized congestion. Microscopically, focal areas of injury were present in nuclear masses which form the gray matter of the anterior horns. Many of the large ganglion cells were destroyed and those that remained were swollen or stained poorly. There was a striking infiltration of the neighboring tissues with some neurophagia. The blood vessels were engorged; there was some extrevasation of the blood in the meninges. In a few places, perivascular cuffing of the nutrient vessels of the brain stem with rings of lymphocytes were seen.

2. E. B., white female aged 16 months, first became ill on August 17, with diarrhea and fever, and vomited in the evening. The following day the patient was hospitalized in a convulsive state, with a rectal temperature of 108° F. Continuous oxygen was administered. The child expired an hour and a half after admission. (It is of interest that a three-year old brother of this patient died of bulbar poliomyelitis in 1940. Both children were undernourished, and the hygienic conditions at home were very bad).

The abnormal findings at autopsy were congestion of the pia, the brain, and the digestive tract. Sections of the cortical cerebral tissue showed injection of the larger vessels, no edema. Sections of the spinal cord showed congestion of larger vessels and diffuse congestion of the white matter as well. The ganglion cells of the anterior horns were shrunken and there was considerable degree of diffuse infiltration. The posterior horns were normal.

3. C. A., white female aged 39 years, developed fever of 100° F. on August 19, 1944. She felt as if she were developing a cold. On August 23, she felt some stiffness in her upper back and the fever continued. Because of weakness she stayed in bed, but there was no rigidity of any muscle at that time. On August 24, she was definitely a polio victim, with rigidity of the neck and back as well as the hamstrings of gastrocnemius muscles. She refused to be hospitalized until August 26, when the rigidity became worse and she began to complain of difficulty in swallowing. Her legs became paralyzed and spastic. The posterior thoracic and the right upper trapezius muscles were in marked spasm. Later in the day the right side of the chest was completely paralyzed. Motion or breath sounds were absent and the patient used her accessory muscles of respiration. On August 27, her chest was completely paralyzed and she was placed in the respirator. On the following day she became cyanotic and expired. A spinal tap done on August 26, showed 131 lymphocytes per cu.

mm. of fluid but no increase in globulin or protein. The white blood cell count was 19,050 per cc. mm., with 84% polymorphonuclear leukocytes on August 28. (Her 14-year-old daughter was a bulbo-spinal patient since August 8 and made a complete recovery in five weeks.)

In the following table (IV) the seven fatal cases are summarized to emphasize the lapse of days between the onset, admission to the hospital and expiration.

TABLE IV

ONSET, ADMISSION AND EXPIRATION DATE OF SEVEN PATIENTS WITH BULBO-RESPIRATORY POLIOMYELITIS

No.	Onset On	Lapse Days	Admitted on	Lapse Days	Died
1.	8/9/41	4	8/13/41	½	8/13/41
2.	7/24/44	2	7/26/44	1	7/27/44
3.	8/17/44	1	8/18/44	½	8/18/44
4.	8/24/44	4	8/28/44	1	8/29/44
5.	8/19/44	7	8/26/44	2	8/28/44
6.	6/20/45	5	6/25/45	1	6/26/45
7.	8/26/45	1	8/27/45	17	9/10/45

CONCLUSION

The early diagnosis of bulbar poliomyelitis is made by the early thorough examination of the muscles supplied by the cranial nerves. Early hospitalization is very important for the efficient observation and treatment of bulbar poliomyelitis because of the rapid spread of the disease into the respiratory center.

DIABETES MELLITUS AND CIRRHOSIS OF THE LIVER

A Case Report

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The association of liver disorders with diabetes is well known. The present case again demonstrates the absence of gross or microscopic pathology in the islands of Langerhans, but the presence of severe liver damage with an abnormal amount of circulating glucose in the blood. Soskin and Levine[1] state that the presence of frank and remediable liver disease or glandular disturbance does not necessarily make the resulting diabetes any different from that which occurs when the etiologic disturbance cannot be detected by present clinical methods. Mirsky[2] in his arm chair philosophy has assembled a large collection of indirect scientific data to show that pancreatic insufficiency is but one of the links, and usually a secondary one in the syndrome of diabetes mellitus in man.

A mild disturbance in carbohydrate regulation commonly takes place in liver disease, in hyperthyroidism, and pituitary or adrenal dysfunction. The effect of gall bladder disease on the liver and carbohydrate metabolism was recently reviewed by the author[3], and it was concluded that the decreased carbohydrate tolerance may not be a true insular one. The toxic effect of the cholecystic disease on the liver evidently deranges the homeostatic control of the blood sugar. The effect of toxin on carbohydrate metabolism in the liver has been demonstrated by Holmes[4] in vitro. There is an increased rate of glycogenolysis and a decreased ability to form glycogen from glucose. Cirrhosis of the liver will also cause this disturbance in metabolism through its excessive fatty infiltration of the organ. The accumulation of fat may be directly due to a deficiency of lipotropic factors in the diet, according to Best and Taylor[5], or brought about secondary to liver damage by the metabolic upset. In a liver disturbance of any severity the synthesis of all protein molecules is interfered with and the secretion of many hormones, including insulin, is seriously disturbed. Insulin is composed of at least nine amino acids. The constituent amino acids and their percental distribution have been reported as leucine 30, glutamic acid 21, cystine 12, tyrosine 12, proline 10, histidine 4, arginine 3, lysine 2, phenylalanine 1. It is interesting to note that histidine and proline cannot be formed in the body, and can only be supplied by an adequate diet.

To insure full use of the amino acids in the body, Stare and Davidson[6] require the intake of food to be adequate as to quantity and quality, absorption to be adequate, and synthesis guaranteed by a proper functioning liver. Protein and carbohydrate protect the liver from damage as do also many of the vitamins, Biskind and Schreier[7] say that the vitamin B complex is especially important. In 1936 Sindoni[8] was one of the first to advise a more detailed study of the patient's diet history. He advises this portion of the history to be included in every history and physical examination.

It is important to investigate the physiological and nutritive condition which will assume hormonal equilibrium. It has been claimed that lack of pituitary hormone may be due to poor nutrition. Scobey[9] claims that relative deficiencies of sulfur, iodine, and vitamins may result from diet deficient in protein. He also concludes that protein deficiency is more frequent in our population than is commonly known. Fouts[10] reports that a low protein diet is of prime importance in the production of fatty cirrhotic liver in dogs.

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Best [11] et al have also noticed this. Meienberg and Snell[12] found that prisoners of the last war who had lived from 2 to 4 years on a protein intake of less than 30 grams daily developed a high incidence of hepatic damage. Sindoni[13] quotes Best in saying that high protein diets well over 100 grams are advisable in the adequate treatment of diabetes mellitus today.

Case Report

M. W., a 65-year-old widow, was admitted to St. Francis Hospital on March 3, 1947. Her abdomen was markedly distended, and there was swelling of her ankles. She complained of anorexia, thirst, insomnia, and tiredness. There was a faint but distinct odor of acetone on her breath. She was drowsy and uninterested in her surroundings. Her face was thin and drawn and the skin dry and inelastic. Glucose was found in her urine and blood the day before her admission to the hospital. One year previous to this illness she had suffered from cardiac pain which was diagnosed as coronary thrombosis. Her family history revealed the presence of tuberculosis. She was a self-sacrificing, hardworking woman and her nutritional history was poor, especially for the past five years. She did not use tobacco but partook of alcohol.

Examination of the heart showed a normal sized organ, with a soft blowing systolic murmur at the apex. Impairment in resonance was present at both bases, with a few crepitant rales of the type associated with cardiac failure. Fluid was present in the abdominal cavity and many superficial veins were visible. Blood pressure was 130/70. Blood sugar 220 mg. per 100 cc. of blood on admission; blood urea 14 mg. per 100 cc. of blood; CO 2 combining power 40 volumes per cent. Blood chlorides as NaCl in plasma were 400 mg. per 100 cc. of blood. The urine was of 1.025 specific gravity, albumin two plus, and sugar four plus. Granular casts and many white blood cells were seen microscopically. Treatment for diabetic acidosis and cirrhosis of the liver was instituted but was hampered by cardiac decompensation. She died March 6th at 8:00 A. M. Death was attributed to cardiac failure, diabetic acidosis, cirrhosis of liver and liver failure.

Autopsy Findings—Gross Pathology*

Gross Description: The body is that of a white female. The hair is brown, short, the iris brown, the pupils are round, 4 mm. in diameter, symmetric, the sclerae are moist, the conjunctivae are injected, the lips are bluish and the color of the face and neck is purple. There is no discharge from ears, nose or mouth or teeth missing. The neck is normally formed, the thorax is large and the breast large and firm. Umbilicus is free and striae are present. Lower extremities show marked ankle edema and moderate edema of the thighs. Genitalia are swollen. No discharge is present. Anus is free. Marked obesity is present. Postmortem lividity of dependent parts can be seen. Rigor of facial muscles has develpoed.

Head not opened.

Ventral section: Abundant subcutaneous fatty tissue is found. The layer of fat measures 3.5 cm. above the thoracic cage and 5 cm. above the abdomen. The position of all organs appears normal. The liver is visible below the ribs, 6 cms. in the right mammary line and 3.5 cm. below the xiphoid process. There is amber, cloudy fluid in the abdominal cavity. The estimated amount is 1 quart. The loops of the intestines are covered with fairly thick reddish fibrin; no free fluid in the thoracic cage. The domes of the diaphragm are at the fourth right interspace and at the fifth left rib.

Respiratory organs: The combined weight of the lungs is 400 gms. Both lungs are free, their pleurae smooth and gray red. The consistency of the lungs is crepitant, the color of the cut surface light red. Bronchi are free, mucosa is pale. Vessels appear normal. Lymph nodes at the hilus are normal.

Thyroid, parathyroid and thymus: Thyroid is small and grossly normal; parathyroids not found; thymus replaced by fatty tissue.

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* Gross pathological report, by O. J. Pollak, M. D., Pathologist, Wilmington General Hospital.

Circulatory organs: Pericardium is free, heart is normally shaped and sized and the epicardium shows a few small light red dots over the right ventricle, on the convexity. The weight of the heart is 350 grams. The muscle is solid, brown and only that of the apex shows an extensive white scar which extends laterally and upward into the wall of the left ventricle. The endocardium is smooth, considerably thickened in the apex. The valves are free, the mitral and aortal ones showing an occasional elevated pale yellow area. The coronary vessels reveal more patches and their lumen is rather irregular and in places very narrow. The descending branch leading to the apex is occluded. It can be traced only about half way down. The aorta shows multiple patches and small groups of longitudinal scars in the descended part. Larger branches show placques.

Spleen, bone marrow, lymph nodes: The spleen is large, weighs 300 grams and its capsule is taut, gray, smooth, the section having a deep red color and bloody, liquid scrapings. The consistency is rubber like. The bone marrow of the ribs is soft, red-brown. Lymph nodes are normal save for a single node at the angle of the aorta and hepatic artery. This node is cherry sized, soft on section and reddish gray.

Liver, biliary tract, pancreas: The liver weighs 2,700 grams. The surface shows hobnail appearance, especially at the edges. The color is dull gray-brown, the consistence hard. The section shows a colorful picture. Brown and yellow small areas are separated by pronounced white-gray fibers which form a network. Near the hilus a prominent node is present on section, of lobular appearance, yellowish-pink with a congested center, its diameter 3 cm. The portal vein is free. Gall bladder is normally sized, the wall thin and the mucosa trabecular, netlike, bile stained. A single cherry sized, soft, pigmented, dark green concrement is seen in the bladder.

All bile passages are patent and the common duct is wide and filled with bile. Pancreas is rather small, embedded in fat, lobular and pinkish. The duct is free. The vena cava is completely occluded by a firm, dark livid colored clot. Above the liver and below the diaphragm there is an aneurysmatic dilatation of the aorta with a spindle shaped clot which measures up to 3 cms. in diameter. The common iliac veins and the femoral veins are likewise occluded. The clot stops just below the passage of the vein through the diaphragm.

Gastro-intestinal tract: The esophagus shows near the cardia prominent veins, which shine through the pale mucosa. The stomach has a normal size and shape, the mucosa appearing normal, and rugae normally developed. The duodenum is free, the mucosa bile stained. The mucosa and contents of the small and large intestines appear normal. The serosa is pink to red and covered with reddish fibrin. The most of this is on the loops of the ileum. The appendix is free. The ileo-cecal valve is swollen and the edges are red. Mesenterium and omentum are normal save for overabundance of fat. The peritoneum is free.

Adrenals: Normally located, normally sized and shaped; medulla soft. The cortex is preserved.

Urinary Organs: The kidneys are embedded in fat: capsule strips easily. The surface is smooth, red-brown; combined weight 270 grams. Structures on section are obscured; differentiation of cortex and medulla poor; cortex seems narrow; pelves free, pale. The ureters are patent. The urinary bladder has a pale mucosa and above the orifice of the left ureter is a bean sized, deep diverticulum.

Reproductive Organs: Uterus is small and soft, cavity is normal and the mucosa pale. The tubes and ovaries are baked together. Each ovary presents a hard lump of 3.5x4 cms. in diameter. The surface of the structures is uneven and the section shows gray-pink tissue with multiple cavities. The right ovary includes a walnut sized cyst with green, thick matter. The left ovary has a pear-sized and pear-shaped sac attached, likewise filled with creamy, thick, green material. From the posterior wall a walnut sized thin walled cyst with clear contents protrudes into the adhesions of the adnexa. Mammary tissue is replaced by fat.

Muscles and bones: Grossly normal.

Microscopic Pathology*

Heart: The muscle cells are slightly enlarged and the section through the left ventricle includes a healed infarct in which the muscle fibers are replaced by dense scar tissue.

Lungs: Normal.

Spleen: Congested. The arteries are thickened with hyaline connective tissue which narrows the lumens.

Pancreas: The arteries show evidence of arteriosclerosis which narrows the lumens. The stroma of the pancreas is slightly increased in a few places, but there is no pathology in the islands of Langerhans.

Liver: There are two lesions in the sections studied. One is a cirrhosis characterized by an increase in connective tissue around the portal spaces and connecting the portal spaces, thus subdividing the liver into small nodules. These scarred portal spaces contain a large number of irregular bile ducts which have resulted from proliferation. There is also an infiltration of lymphocytes in the portal spaces. The nodules are made up of irregular liver cells, many of which appear to be young. Although these liver cells form trabeculae, there is no normal arrangement around the hepatic veins. Some of the bile capillaries are distended. This cirrhosis is interpreted as the result of biliary obstruction with injury to both bile duct epithelium and liver cells followed by regeneration. There is no evidence in the sections that the cirrhosis was anything but quiescent condition at the time of death. Superimposed on the cirrhosis is an acute destruction of liver cells in the central portion of the nodules. This is characterized by the disappearance of liver cells, the infiltration of blood and numerous phagocytes. This second lesion is presumably the result of obstruction of the vena cava by thrombus.

Adrenal: Normal.

Ovary: One ovary contains a cyst lined with delicate papillary projections of columnar epithelial cells. These cells are arranged in layers from one to three cells deep. They are quite regular and show no evidence of cancer. The capsule of the tumor is not invaded as far as can be made out. A second section of the ovary is from the wall of a cyst in which the epithelium is stretched out in a thin layer one cell deep. The wall of the cyst is dense connective tissue containing psammoma bodies. This is probably the same type of tumor as in the other ovary.

Ileum: The blood vessels are congested, and the interstitial spaces contain edema fluid. The mesentery is infiltrated with monocytes.

Kidney: The capsular spaces and convoluted tubules contain albuminous fluid, and the cells and tubules are swollen.

Comment

Diabetes mellitus is frequently associated with cirrhosis of the liver. Not only is the homeostatic control of the blood sugar disturbed, but interference with protein metabolism is marked. The synthesis of amino acids may be affected and there may follow a disturbance in the secretion and action of many hormones, composed of these acids.

Since certain amino acids cannot be formed in the body, nutritional defect in these essential factors, e. g. histidine and proline, may interfere with the secretion and action of insulin.

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* Microscopic pathological report by Douglas M. Gay, M. D., Pathologist, St. Francis Hospital.

BILIARY SURGERY

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The recognition of a definite syndrome associated with disease of the biliary tract, particularly inflammation and calculi, extends back many hundreds of years. Aggressive treatment of this syndrome is less than 100 years old. Surgical attention was first directed at the removal of stones from the gallbladder, with the operation of cholecystostomy. This was followed shortly afterward by removal of the gallbladder, and in a relatively short period of time both of these procedures were being performed with sufficient safety to warrant their acceptance by the medical profession.

As cholecystostomy and cholecystectomy became more frequently performed, it was possible to evaluate the efficacy of each procedure. Very early it became obvious that the results obtained in simple drainage of the gallbladder were not as statisfactory as those which followed cholecystectomy. This latter operation has now become the procedure of choice, and one seldom encounters anyone advocating cholecystostomy, except in the occasional case of the acute gallbladder where the surgeon believes that cholecystectomy at that time would be a hazard and too formidable a procedure for the patient. It also became possible to prognosticate, with a considerable degree of surety, the patient who would be relieved of his distress following cholecystectomy. Those patients who give a history of biliary colic, with nausea, vomiting, and dyspepsia, can usually anticipate a successful outcome. If to this history is added the physical finding of tenderness in the region of the gallbladder and the radiologic finding of nonvisualization of the gallbladder, or the presence of stones, the surgeon can anticipate that 80-95% of these patients will be relieved of their symptoms following cholecystectomy. Judd,[1] Elman,[2] and Parsons,[3] have contributed a good deal to this phase of the subject.

In the stoneless gallbladder, the results have not been so satisfactory. Graham and Mackey,[4] have shown that where typical biliary colic was not an important feature in a patient with a stoneless gallbladder, cholecystectomy was doomed to failure in as high as 40% of the cases. They also made the interesting observation that the relief of symptoms in cholecystitis without gallstones is in almost direct proportions to the amount of damage present in the gallbladder wall. The thin, normal-looking gallbladder walls were for the most part destined not to be relieved of their symptoms unless stones were present. In spite of countless investigations, leading to voluminous literature, on this subject of cholecystitis there are still many blind spots in our knowledge.

The logical approach to the management of the gallstone problem would, of course, be the prevention of their occurrence and since this is not as yet possible, nor is there any evidence of its immediate accomplishment, the next most logical approach is surgical operation. Lahey,[5] is convinced that there are no harmless gallstones. It has frequently been urged and practiced that a proper attitude to take toward gallstones is that operation should not be undertaken until they produce symptoms. In his large series of cases Lahey is impressed with the fact that this philosophy results in many serious situations and in fatalities which would not have occurred had the operative procedure been undertaken earlier.

When operation is deferred as is so commonly the case today, until it is done in the late stages of gallstones after they have existed for a considerable period of time, the situation then is not infrequently complicated by the presence of acute infection in the form of acute cholecystitis, common and hepatic duct stones, jaundice, hemorrhage, and the likelihood of recurrence of stones in the common bile and hepatic ducts, even though they are all successfully removed together with the gallbladder and its contained stones.

My own experience with biliary tract surgery will be discussed on the basis of 100 consecutive cases in which surgery was performed. In the majority of these cases cholecystectomies were performed for chronic cholecystitis and cholelithiasis. However, cholecystectomies were performed in 11 cases for acute cholecystitis. A cholecystostomy was performed in two other cases of acute cholecystitis which in my judgment was deemed the proper procedure. The treatment of an acute gallbladder requires a great individualization and cannot be categorically set forth. Bettman and Tannenbaum[6] report 30 cases of acute cholecystitis in which drainage was carried out in 24 cases and cholecystectomies in only 6. They conclude that the benefits which accrue from the resection of a really acute gallbladder as compared to the possible dangers are not sufficient to justify it. Lester[7] from a survey of 109 cases of acute cholecystitis reports 96 cases in which cholecystectomies were performed and 13 in which cholecystostomies were performed. Cholecystostomy was done only in severely ill and aged patients. Lester reports 4 deaths in the acute cases. In this survey of 11 cases in my series of acute cholecystitis there were no deaths. Although this is a small series it is, however, in keeping with the results from our large clinics.

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In this series of 100 cases carcinoma of the gallbladder was found in 1 patient. There were no nodules found in the liver. A cholecystectomy was performed. This patient survived for a period of 8 months following surgery. Sheinfeld[8] in a recent case report performed cholecystectomy and partial hepatectomy for carcinoma of the gallbladder with local liver extension. His patient lived seven months. From a survey of his collected cases the results in the surgery of carcinoma of the gallbladder are in general poor when compared with the results of radical surgery for carcinoma of other organs.

A wound of the liver due to trauma is included in this series of cases. This 4-year-old boy was struck by an automobile. He was carried to the Wilmington General Hospital. X-ray examination revealed no thoracic nor bone injury. However, on physical examination there was a good deal of evidence pointing toward intraabdominal injury. This child was explored several hours after the accident under spinal anesthesia. The spleen and gastro-intestinal tract were found to be normal. However, a traumatic wound of the liver was found which was bleeding considerably. The torn liver was sutured and the child made an uneventful recovery.

Sixteen patients with cholecystitis and cholelithiasis had a cholecystectomy performed in combination with other surgical procedure. Of this group there was 1 death. This occurred in a 55-year-old woman who had some degree of arteriosclerosis and a moderate degree of hypertension. A cholecystectomy and a hysterectomy were performed. One week later a hemiplegia developed. Death occurred several weeks later. Cerebral hemorrhage, thrombosis, or cerebral embolism were suspected causes. The medical and neurologic consultants varied in their opinion. Permission for a post-mortem examination was not obtained. In this same group 2 other cases are worthy of discussion. A female whose weight was over 250 pounds had a cholecystectomy, appendectomy, excision of adipose tissue, and a repair of an umbilical hernia performed. She made an uneventful recovery and was discharged from the hospital in 14 days. Another female made an uneventful recovery following a cholecystectomy, appendectomy, conization of the cervix and a hemorrhoidectomy.

The most interesting but most serious phase of biliary surgery is that which deals with the problems of common bile duct structures and common bile duct stones. Lahey[9] outlines the progress in biliary surgery by saying that the profession has progressed through two eras in the surgical management of gallstones and are now in the third era. In the first of these periods the surgeons attempted to relieve patients permanently of gallstones by opening their gallbladders and removing the stones, but this resulted in so many of the patients having a recurrence of their gallstones or cholecystitis in the remaining gallbladder that the procedure was universally given up. The surgeons next progressed to cholecystectomy, with the removal of the gallstones and the infected gallbladder, with great improvement in end results but with many common duct stones overlooked and later producing symptoms and fatalities. The profession is now in the third era in which, in at least a high per cent of the cases, not only is the gallbladder removed but the common bile duct is opened, investigated and any demonstrated stones removed, the sphincter of Oddi dilated, and internal drainage of bile established.

Of these 100 patients subjected to operation, 14 had a cholecystectomy and a choledochostomy. Common bile duct stones were removed from all of these cases. In 5 other cases cholecystectomy and choledochostomy was performed for that condition of the biliary tract known as Charcot's fever. An excellent description of this disease is presented by Da Costa[10] as follows: "In certain cases when a stone is lodged in the common bile duct an attack of colic is followed by or accompanied by a chill or chills which may be very violent, moderate or slight, and by a febrile seizure resembling malaria and called hepatic fever or Charcot's fever. In this condition there are jaundice and tenderness of the liver. The condition is ominous because it is due to infection and may lead to inflammation of the large ducts (cholangitis). Blocking may be complete and the stone may ulcerate into the bowel or peritoneal cavity. Blocking may be incomplete, the stone acting as a ball-valve and producing intermittent colic and jaundice, which wanes and deepens."

The diagnosis and management of the jaundiced patient can prove to be most difficult in some instances. The most troublesome diagnostic problem is presented by the patient whose jaundice was initiated without severe pain. It is of importance to concentrate attention on this type of case today because of the worldwide dissemination of infectious hepatitis which occurred during World War II, the frequently reported incidence of homologous serum jaundice subsequent to the use of blood and plasma, and the apparently increased frequency of portal cirrhosis. These are distinctly medical disorders but unfortunately they may be confused clinically with the painless, obstructive variety of jaundice due to tumors of the papilla of Vater and the head of the pancreas. Diagnosis in these cases will depend entirely upon the results of the hepatic functional tests plus the clinical acumen of the surgeon. The reader is referred to a most interesting article by Snell[11] concerning the differentiation of obstructive and heptocellular jaundice.

In this series of 14 patients with jaundice there were no operative deaths. Multiple stones in both the hepatic and common bile ducts were common. The most serious patient in this group was a 50-year-old jaundiced female who had been operated upon 6 months prior to her present admission for duct stone by another surgeon. This patient was febrile and jaundiced. At operation a stone was found impacted in the ampulla of Vater. The stone was removed. An associated acute pancreatitis was also present. Following a very stormy convalescence this patient eventually recovered. Examination 18 months following surgery reveals no recurrence of symptoms nor signs of biliary disturbance.

A brief summary of those cases which were classified as Charcot's fever is presented. Charcot's fever as a rule, is seen in the older age group of patients. This usually implies longstanding biliary tree infection. All of these patients were 70 years of age or older. These patients not only presented severe infection of the biliary tree but were also suffering to some degree from myocardial damage, arteriosclerosis, and pulmonary changes, as well as nephritic damage. There were no operative deaths in this group.

Until a few years ago the problem of hemorrhage during operation in these cases presented quite an annoying situation to the surgeon. Following operation the problem of infection has also been disturbing. However, within recent years many of the hazards of operation have been reduced by the proper use of vitamin K, sulfa drugs, penicillin, and streptomyocin. The sulfa drugs are used in the presence of jaundice without fear of increasing hepatic damage. Prior to operation these patients are well studied, both clinically and from a laboratory standpoint. Attention to anemia, hypoproteinemia, vitamin, water and electrolyte balance are considered both pre- and post-operatively. A diet high in proteins and low in fat is utilized. Ravdin[12] in his article on hypoproteinemia and its relation to surgical problems believes it has a beneficial effect upon the liver. When cirrhosis of the liver complicates the surgical problem the therapy as advocated by Morrison[13] might well be utilized. Morrison advocates the use of methionine, choline chloride, and a special liver extract prepared by the filtration and concentration of an aqueous liver solution containing vitamin B complex. Continuous spinal anesthesia as advocated by Lemmon[14] was used in all of these cases. This has contributed a good deal to the success of these operations. Despite these facts Saunders[15] in a recent article states that the mortality in surgical procedures on the common bile duct remains high, largely because of the almost universal association of disease of these structures with advanced cholecystitis and liver damage.

Indications for opening the common bile duct are as follows: (1.) jaundice or past history of jaundice; (2.) history of chills and fever associated with gallbladder disease; (3.) palpation of a stone in the duct; (4.) contracted gallbladder; (5.) abnormal dilation of the duct; (6.) small stones in the gallbladder with an enlarged, patent cystic duct; (7.) aspiration of cloudy, black or flocculent bile from the duct. There are many details concerning these indications which must be evaluated in each instance before the common duct is opened.

The plan of operative procedure which is employed at the present time consists in cholecystectomy followed by choledochotomy. Prior to this latter procedure a hypodermic needle is first introduced into the duct, to avoid any possible danger of opening the portal vein. This precaution is necessary since anomalies in this region are not uncommon. Next, the right and left hepatic ducts are explored removing stones and debris if present. The retroduodenal portion of the common duct is explored last. Stones impacted in the ampulla of Vater may easily be overlooked, or their extraction may be very difficult. The next procedure is to dilate the sphincter of Oddi. When all stones and debris have been removed and the duct irrigated, a T tube is inserted into the duct and sutured snugly. Drainage is then established and the wound closed in layers about the T tube and drain.

The postoperative treatment is similar to that advocated by Cattell [16]. The parenteral administration of vitamin K is continued, and the prothrombin time is followed. Intravenous dextrose, saline, amino acids and blood transfusions are used as necessary. The bile excreted is measured every 24 hours. Compensation for this loss is included in the postoperative care. Cholangiagrams are a necessary part of this surgery. When is the T tube removed? This varies a good deal. The T tube may remain in situ from a period of several weeks to a year or more. According to Payne[17] there are 3 factors to be considered in removing a common bile duct drain: (1) the liver factor—functional normal or depressed; (2) the duct factor—inflammatory cholangitis; (3) the sphincter factor—spasic, inflamed or obstructed. A common bile duct drain is so placed for the decompressing of the liver and the inflamed ducts until a normal state is obtained. The criteria for removing a common bile duct drain are based on (1) chemical study of bile; (2) microscopic study of bile; (3) the determination of the patulence of the sphincter of Oddi. These studies are relatively simple and can be performed readily.

Most of these patients are discharged from the hospital within a period of 12-14 days after operation. The T tube is left in situ, the patients are instructed to tie the tube during the daytime in order not to soil their clothes, but to place the end of the tube in a bottle and to allow it to drain throughout the night. The patients are allowed full activity at this time. When the criteria for removal of the T tube are complete the patients return to the office and the tube is removed without administering anesthesia. I have never had a biliary fistula fail to close nor has a rubber tube ever broken in the process of removal.

Prolonged decompression of the biliary tree for a period of many months in cases of Charcot's fever where the bile ducts are dilated and infected is of distinct value in ridding the biliary tree of infection. Follow-up studies in these patients show that they are in perfect health and have resumed their former activities.

RESUME

1. Earlier operations upon patients with gallstones will reduce the number of cases of common bile duct stones. This will reduce the severe complications which are here presented.
2. Indications for opening and exploring the hepatic and common bile ducts have been outlined.
3. Technical procedures are briefly discussed.
4. The importance of anesthesia and pre-

and post-operative principles have been presented.

5. Cases of severe biliary tract disease are presented, in the old age group, without a mortality.

Medical Arts Building.

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USE OF "ISO-PAR" OINTMENT IN THE TREATMENT OF OTITIS EXTERNA*

WILLIAM T. REARDON, M. D.,**
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This article is based on a report sent to the Surgeon General's office from Okinawa, a report which was made in an endeavor to have the new drug Iso-Par, put on the accredited list and thereby made available to those medical officers who cared to use it in the service.

Since the writing of this article early in 1946, I have been informed by the Surgeon General's office that Iso-Par ointment has been put on the standard list for the Army and that the drug has been urgently recommended in the Pacific.

I was the E. E. N. T. officer of the 27th Station Hospital, which functioned at New Caledonia for two and one-half years and on Okinawa from May, 1945, until after V-J Day. During that time the outpatient department of this hospital was the largest on either of the two islands. Owing to the fact that this hospital was stationed for a long period in one place, it was possible to follow individual cases and observe the results of treatment. In 1943 the E. E. N. T. outpatient department gave an average of 800 treatments a month, and in 1944 this average increased to 1,300 treatments a month. Twenty per cent of the patients were seen because of otitis externa.

A large percentage of patients gave a history of having had a fungous infection for several months. They had been treated with many different drugs and ointments, but the condition always persisted. Close observation led to the belief that few of the infections complained of were true fungous infections. Only patients who had an elevation of temperature were admitted to the hospital, and therefore it may be stated that the patients who were under close observation were the ones whose aural disease was particularly stubborn and resistant to previous forms of therapy.

These patients complained of a painful, running ear, severe itching of the ear, pain on chewing and tenderness at the angle of the jaw. The pain was more severe at night and was frequently described as a sharp shooting pain within the ear.

On examination there was often crusting about the orifice of the canal and about the lobe. The canal was swollen and narrowed, and usually a large amount of debris was present which had an odor of new-mown hay. When this was cleaned out, the canal wall was found to be inflamed and tympanic membrane to have lost its luster and to show evidences of an inflammatory reaction. Frequently there were multiple hemorrhagic blebs on the canal wall and on the tympanic membrane. The ears presenting these conditions were apparently the most painful and were immediately relieved of pain when the blebs were rupturd. In other cases the otitis externa was a result of irritation due to a discharge of chronic suppurative otitis media. Because of the frequency of a history of swimming preceding the attack, it was thought that the condition was caused by contaminated water. However, it was later found that many of the patients with otitis externa gave no history of swimming. There were also ears with impacted cerumen which became irritated as a result of swimming. Many of the patients were sent from the Solomon Islands, where the condition was common and was known as "jungle rot."

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* Originally published in Archives of Otolaryngology, March, 1947, and reprinted by permission.
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Before arriving at this hospital, most of the men gave a history of having been treated elsewhere with a different drug every time a new medical officer looked at their ears. Most of the ears were purple from tincture of gentian violet. On further questioning a typical history would sound approximately as follows: "My right ear was hurting me for a few days and then started to run. After about six weeks it stopped running, and then the other ear started to hurt and run. The dispensary was putting drops in my ears but they never seemed to clear up." Many patients gave a history of having been hospitalized several times for this same condition.

For my part, I had used sulfathiazole ointment, cresatin (metacresyl acetate), Burow's solution, gentian violet medicinal, Castellani's paint, ichthammol ointment, silver nitrate, merbromin N. F., 5 per cent phenol glycerin solution, merthiolate, metaphen and, later on, penicillin solution—all with poor results. Just about the time that the ears seemed to be improving, they would flare up overnight and the case was back again where it had started. It should be added that penicillin solution not only proved valueless but was the most irritating of all of the drugs used.

Fortunately, about this time a communication was received from Baltimore, containing a report by Dr. Harry R. Slack Jr. on the effect of substituted benzylamine salts of isoparaffinic acids used in infections of the auditory canal. Following the receipt of this report, it was possible to obtain from the manufacturers a quantity of Iso-Par ointment, which contained these salts.[1] This material was reported to be fungicidal, bactericidal and stimulating, and was stated to create sufficient anesthesia to relieve the pain and itching of superficial injuries, infections and eczemas. Its principal value was said to be in the treatment of pruritus ani, pruritus vulvae, certain mycotic infections and eczema of the ear.

Immediately on receipt of the ointment, it was put to use in cases of otitis externa and an impressive and rapid response was noted. It was found that infections treated in the early stages responded almost immediately; pain subsided, itching ceased and the spread of the condition was checked. Where the conditions had existed for some time prior to beginning Iso-Par therapy, treatments had to be more extensive and response was less rapid but nevertheless steady.

Many of the infections were bilateral, and therefore, in order to reach definite conclusions, one ear was treated with Iso-Par ointment and the other with other agents, previously mentioned. In these cases the use of Iso-Par ointment was found to be far superior to any of the other forms of medication.

Through the generosity of the manufacturers, Iso-Par ointment was supplied to the clinic of the 27th Station Hospital from 1943 until I left Okinawa in 1945, when our hospital unit was inactivated.

The procedure followed in treating otitis externa with Iso-Par ointment was as follows:

The aural canal was thoroughly cleansed with hydrogen peroxide and dried. A 1/4 inch (6 mm.) wick, which was cut from a 2 inch (5 cm.) gauze bandage, was saturated with Iso-Par ointment and placed within the canal. This wick was replaced in two days. After about three treatments, the interval was lengthened to three days, then four days and then a week. Usually there was a noticeable improvement on the second visit. When the ear became perfectly dry, it was painted with Castellani's paint and seen every two weeks or once a month to check for any possible recurrence.

When hemorrhagic blebs were encountered, they were ruptured if the patient was complaining of pain; otherwise they were not disturbed. Often the canal of the ear was practically obliterated, owing to the edema, and great care had to be exercised in placing a wick in the ear, because of the exquisite pain. In this type of ear it was found that on the third to the fifth visit the lining membrane would slough off in mass. Another factor which played an important part in treatment in these cases was cleanliness. The involved ear had to be seen often and cleansed thoroughly at each visit and dried before a new wick was inserted. It was definitely established that the ears did better when water was kept out of them. It was also noted that the involvement was usually unilateral and later became bilateral. To avoid this condition, the well ear was cleansed, dried and painted with Castellani's paint. Patients were never discharged. They were told to report back for a monthly check-up, and if reinfection occurred, to report back immediately. To the best of my knowledge, there was only one patient out of hundreds treated whose otitis failed to respond to the therapy described.

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[1] Unguentum, Iso-Par (see "New and Nonofficial Remedies" 1946, page 135 [or 1945, page 139], supplied by Medical Chemicals, Inc., Baltimore.

As a result of Iso-Par therapy, many days of hospitalization were saved. The patients were able to continue their normal duties, losing only the time required to go to and from the clinic.

In conclusion a number of points should be emphasized which can be of value to the otologist. These points may be summarized as follows:

(a) Iso-Par ointment proved to be a specific medicament for the otitis externa seen in the Pacific Area and was found to be far superior to any other used for that purpose.

(b) Iso-Par ointment is apparently neither toxic nor irritating and is effective as fungicide, bactericide, anesthetic and stimulant to rapid healing.

(c) The toilet of the ear is essential, and the canal should be kept clean and free from water.

(d) Otitis externa often recurs, and Castellani's paint should be used as a prophylactic agent.

(e) I am using Iso-Par ointment in civilian practice with results equal to those witnessed in the South Pacific.

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Therefore, should any physician fail to receive one of these Directory Information cards by December 1, he should write at once to the Directory Department requesting a duplicate card be mailed.

Sickness Statements for Rail Workers

Physicians throughout the nation are being asked to furnish medical evidence to substantiate the claims of railroad workers who may now draw cash sickness benefits under the Railroad Unemployment Insurance Act. The Railroad Retirement Board pointed out that unless an application is mailed not later than the seventh day after the first day of sickness claimed, it may not be received within the legal time limit for filing applications. As a result, the employee may lose one or more days' benefits. Doctors are asked either to return each completed Statement of Sickness to the patient, or mail it promptly to the office of the Board to which it is addressed.

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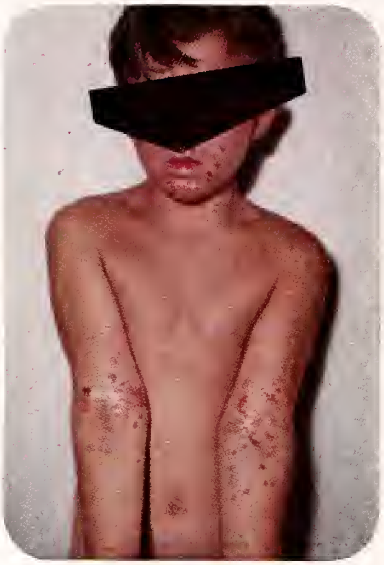

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Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

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Subscription price: $4.00 per annum, in advance. Single copies, 50 cents. Foreign countries: $5.00 per annum.

Vol. 19 November, 1947 No. 11

The National Physicians Committee Vindicated

One of the many controversial issues contained in the widely publicized report of the Raymond Rich Associates, dealing with the public relations of the American Medical Association, was its criticism of the National Physicians Committee—criticism admittedly based on hearsay evidence. At the December meeting of the House of Delegates of the American Medical Association, the reference committee appointed to study the Rich Report—of which Dr. William Bates of Pennsylvania was chairman—recommended, "in view of the controversial nature of the Rich Report and in view of lack of documentary evidence relating to the National Physicians Committee . . . further study of this portion of the report."

At the next meeting of the House at Atlantic City, the Bates Committee offered a supplementary report dealing with the National Physicians Committee. The report stated clearly that every charge made against the National Physicians Committee by the Rich Associates had been investigated and found to be absolutely without foundation. This portion of the report, exonerating the National Physicians Committee, was adopted unanimously. A second recommendation of the Bates Committee moved a vote of confidence in the National Physicians Committee. A few members objected to this recommendation on the ground that theAmerican Medical Association might lose some of its dignity as a result of being associated with an organization which is frankly engaged in propaganda and in lobbying. None denied that the National Physicians Committee had done more than any other agency to save the country from political control of medicine, but some doubted the expediency of having it recognized by the American Medical Association. Dr. Holman Taylor of Texas scored a bull's-eye when he compared the American Medical Association to a gentleman who, after being rescued from a robber by a prize fighter, brushed his clothes and refused to thank the rescuer because he was not his social equal. The House roared with laughter, and then voted by a large majority to endorse the National Physicians Committee.—*North Carolina Medical Journal*, August, 1947.

Regrets

We offer publicly our apologies to the firm of Charles Lentz & Son, instrument makers of Philadelphia, whose exhibit at the recent Annual Session of the Medical Society of Delaware was not listed in the program with the other exhibitors. This omission is most regrettable, so we take this opportunity to add this public apology to our private one previously sent to them. We hope they will accept our sincere regrets, and be with us again next year at Rehoboth.

THE DOCTOR-DESCENDING SCALE

Some weeks ago we encountered an old friend at a funeral. He said he must be getting old. That is a conclusion frequently reached by attendants at classmates' funerals, but, curious, we asked him why. He said because the whirling particles on the kaleidoscope of his mind were beginning to settle down and take shape. Indeed, some of them formed definitely remembered pictures.

"Such as what?" we asked.

"I'll jot some down for you," he said. Some days later he sent the following:

When I was in college a classmate asked me to dinner at his home in Boston. In flattered timidity I accepted. His father, then, was to surgery in Boston what Osler was to medicine in Baltimore.

We went into the library. It was a typical Beacon Street rear room library. If you want to know what it looked like I refer you to *The Late George Apley*. It was the library of a man in very comfortable circumstances. A pleasant open fire warmed it. Before the fire, upon an old-fashioned reclining chair with an adjustable back, reposed a man. A big man, not fat, but solid. He had plentiful white hair and a sweeping snow-white cavalry moustache. His cheeks and his big nose were red, but of an outdoor redness, not the dull purple of small ruptured veins. His right foot was well elevated on a stool and at his right hand, on a small table, stood a half empty bottle of Burgundy and a glass. As his son introduced us he waved a genial hand, indicating his foot.

"Gout, you know. Can't get up. Eight operations today. Tired." He pointed to the bottle. "Shouldn't drink it, after all, muzzle not the ox that treadeth out the corn. A man must have some joy in life."

He was one of the most respected citizens of Boston. To have him take out your appendix was the equivalent of knighthood. As I recall, he had a very pleasant life, died no sooner than he should have, in spite of his well-known fondness for his bottle, and was mourned by grateful friends and patients from every walk of life. I never heard of anyone envying him his carriage, his horses, or his house on Beacon Street. On the contrary, Boston was proud that it had been able to support such a man in the comfort the community felt he merited.

Fifteen years or so later, I found myself again in Boston. I was at a medical dinner and the subject of full-time professors was under discussion. Someone remarked that fifteen thousand dollars a year was ample for their maximum salary.

"Not in New York City," I observed.

The comment was received with lifted eyebrows all around the table. I was annoyed.

"A professor has a certain state to keep up," I said. "He is supposed to entertain visiting firemen. His household and his table should seem worthy of a professor. He is supposed to give his children the same educational advantages he himself enjoyed. He and his wife are supposed to dress according to a certain standard, so that they may reflect credit on their University. They are supposed to go abroad, so that the professor may join International Societies and so that his name may be known far and wide upon the face of the earth. Try and do that in New York on fifteen thousand a year."

A professor of the type mentioned addressed me in a tone of strained tolerance tinged with contempt for my avarice.

"Ah, but Doctor," he said, "send your children to the public schools."

"Did you?"

He turned quite red. "No," he answered.

"Why not?"

"My wife wouldn't let me." His wife, I discovered later, was a very charming, fastidious, and wealthy lady. No doubt he had forgotten that.

My last experience with a Full Time Man was under the roof of one of our best known Medical Schools. He was evidently proud to be in charge of a hospital service of two thousand mice. One thousand were of a strain predisposed to cancer. The other thousand were not. The doctor suspected that cancer might be induced by feeding the noncancerous mice on the milk produced by the cancerous strain. In order to do this he had to learn to milk a mouse. He had done so, I saw him do it.

We are grateful to our friend for these three vignettes. To some they may seem totally unrelated scraps of reminiscence. They don't seem so to us. They illustrate very well the disturbing chronicle of what is happening to the doctor during the span of less than one man's lifetime.

The first picture is that of the doctor as one of the most respected men in his community. The better living he made the prouder his neighbors were of him because he made them proud that they were able, properly, to support a man to whom the entire community, rich and poor, were grateful.

In the second the doctor depends on someone else for his livelihood. There is nothing unusual about that. For centuries mens' love has been tempered by considerations of money. But, then, he, from the stronghold of his uxorious independence, presumes to impose upon others less fortunately circumstanced his ideas about what he thinks a full-time professor should earn. Those who accept his terms are submitting to the judgment of others the amount of the reward they think is fitting the world should grant them. A most important and significant step downward from the path of rugged individualism. A doctor expects a layman, when he is sick, to do what the doctor orders. Why, then, when the layman is well, should the doctor submit to the dictation of men who in their time of trouble turn to him as a man of superior wisdom? It is entirely a matter of money. The power of the purse. We admonish the members of our profession to be careful and jealous of the independence they relinquish for the new hospital building or for the glitter of the title of professor.

As for picture number three. Conceded that from the labors of such men there may eventually come a cure for cancer. We applaud them for unselfish zeal. But why waste four years of the coveted privilege of medical education on the type of man who wants to—or has to—spend his life riding herd on mice? Isn't that using buckshot to shoot snipe? We can't help thinking of the monks who packed the monasteries of the Middle Ages, and for three meals a day would do anything from cleaning the cowstables to illuminating manuscripts for the Greater Glory of God. Only today we call it for the greater glory of Research.—Editorial, *N. Y. St. J. M.*, Nov. 1, 1947.

Mineral Oil Decreases Carotene in Blood Plasma, May Harm Liver

It is doubtful whether mineral oil can be used safely, year in and year out, either as a fat-substitute in foods, as a remedy for constipation, or in weight-reducing diets. Evidence as to its dangers is reviewed in an editorial appearing in the October 25 issue of *The Journal of the American Medical Association.*

"The use of mineral oil in foods such as imitation mayonnaise or salad dressing increased during the war because of the shortage of biologic fats and oils," the editorial says. "Such food substitutes are used extensively also in weight-reducing diets. Previous reports concerning the interference of mineral oil with the absorption of fat-soluble vitamins, particularly vitamin A and its precursor, carotene, were based mostly on animal experiments in which large quantities of mineral oil were used, compared with what would ordinarily be taken by man. [Dr. A. C.] Curtis and his associates showed that the ingestion of mineral oil by human beings will prevent a rise in blood carotene consequent to simultaneous intake of foods rich in carotene; the subjects in this experiment were observed for only 15 days.

"Recently [Dr. B.] Alexander and his associates made similar observations on human beings for three to eight weeks. . . . The decrease in plasma carotene was noted within one to two weeks; it progressed further in many cases as the intake of mineral oil continued. Neither significant changes in the plasma vitamin A nor untoward clinical manifestations occurred. Since it is well known that the concentration of vitamin A in the blood remains relatively constant for as long as six months in normal persons subjected to restricted intake of vitamin A and carotene, a conclusion could not be drawn on these subjects with regard to the effect of mineral oil on the supply of vitamin A as such to the body. The conclusion, however, was that in man the simultaneous ingestion of mineral oil with food prevents substantial amounts of food carotene, a precursor of vitamin A, from entering the body.

"While many physicians believe that mineral oil is not absorbable and therefore can do no harm, some of it prescribed for constipa-

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tion does pass through the intestinal wall and on into the liver. [Dr. W. C.] Alvarez reviewed the work of Frazer, Stewart and Schulman, who found that if mineral oil was ingested without previous emulsification, only a small percentage of it was absorbed, but that when given in the form of a fine emulsion, as many persons take it, about one half of it went through the wall of the bowel. . . .

"These observations raise the grave question, Alvarez says, whether mineral oil can be used safely, year in and year out, as some persons use it; they also raise the question whether purveyors of food should ever be allowed to substitute mineral oil for the edible fats. The Council on Foods and Nutrition of the American Medical Association concluded in a report published in 1943 that the indiscriminate use of mineral oil in foods and cooking is not in the interest of good nutrition and that any such use should be under careful supervision of a physician."

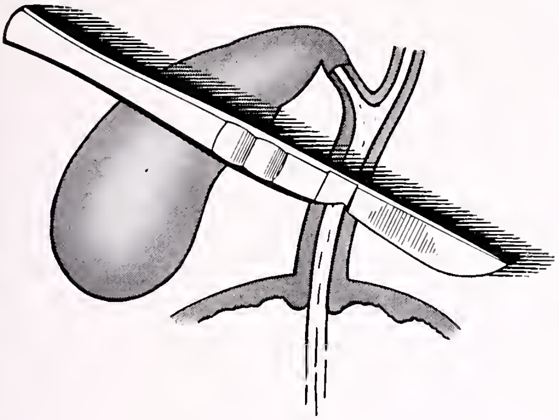
Cancer Deaths

Because our population is not only increasing but growing older, in 1980 there will be approximately 82 per cent more deaths from cancer than in 1940 if no further progress is made in cancer control in the United States.

This startling fact is brought out by Halbert L. Dunn, M. D., chief of the National Office of Vital Statistics of the United States Public Health Service of the Federal Security Agency, in an article published in the current issue of *Hygeia,* health magazine of the American Medical Association. So that "we may have a realistic yardstick for the progress made in our fight against cancer," Dr. Dunn sets forth some estimates based on population trends and on cancer surveys made by the United States Public Health Service:

Year	Total Population Over 45	Cancer Cases	Cancer Deaths
1940....	35,104,000	287,735	158,335
1950....	41,859,000	347,400	192,300
1960....	48,654,000	404,300	226,700
1970....	55,450,000	456,600	260,000
1980....	58,731,000	500,000	288,500

"If, in 1980, there should actually be only 400,000 cancer cases and 230,000 cancer deaths, it would represent a saving of one out



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of every five cases or deaths that could have been expected—this in spite of the fact that both of these figures are considerably larger than today's,'' the writer observes.

Conveniently located cancer clinics—one for every 50,000 persons—are today advocated by cancer authorities in order to assure earlier diagnosis and treatment. In 1945 New Hampshire was apparently the only state which had achieved that goal, and five states had not a single cancer clinic available.

And yet, Dr. Dunn points out, even an infinite number of cancer clinics using the best methods of diagnosis and treatment known to science today could not actually reduce the total number of cancer deaths expected with our aging and growing population.

''The real victory in the cancer battle will probably come from a vast research program aimed at the nature of cancer itself,'' he writes. ''This calls for large sums of money, and for thousands of research brains. It took two billion dollars and thousands upon thousands of scientists and technicians working in a coordinated program of research to make the first atom bomb. The same amount of money and brains devoted to the subject of cancer might bring a solution of this baffling problem in about the same length of time.

''Quite likely, the cost and effort would not be this great. But if it were—is this too much to pay to keep the cancer spark from kindling?''

Journal Debunks Seven Day "Cure" For Chronic Alcoholism

''A simple cure for chronic alcoholism, seven day, seven week, or even seven year, does not exist,'' according to an editorial in the November 1 issue of *The Journal of the American Medical Association.*

''Since the publication of an article, 'Seven Day Cure for Alcoholism,' in *Magazine Digest,*'' the editorial says, ''*The Journal* has been receiving inquiries from both physicians and the public requesting further information and confirmation of the efficacy of the treatment proposed. . . . The treatment described is a withdrawal method, using slowly decreasing doses of alcohol intravenously over a period of six to seven days. The patients treated by the authors were those with acute alcoholic dementia, hallucinosis and delirium tremens. These patients were treated equally as successfully by the intravenous method as others have been who took decreasing doses by mouth along with other adjuvant treatment, but no more so. . . The authors admit that this method does not produce a permanent cure of chronic alcoholism. The patients may well return to the abuse of alcohol, as they frequently do following other types of withdrawal treatment. The personality factors that cause maladjustment to environment must be determined and controlled. . . . Aside from its usefulness in withdrawal treatment, the technic seems about as illogical as the sugar treatment of diabetes or the morphine treatment of the opium habit.''

Tuberculosis is a public health problem which affects every single individual in the state. Every case of tuberculosis costs somebody in the community $10,000. Since 96 per cent of the patients cannot afford to pay their hospital expenses, that ''somebody'' is the taxpayer. This cost will go on and on until all the active cases of tuberculosis are located, hospitalized and prevented from spreading infection to others. Health and Safety Medium, Sept., 1946.

BOOK REVIEWS

Internal Medicine in General Practice. By Robert Pratt McCombs M. D., Assistant Professor of Medicine and Director of Postgraduate Teaching, Tufts College Medical School. 2nd Edition. Pp. 241, with 122 illustrations. Cloth. Price, $8.00. Philadelphia: W. B. Saunders Company, 1947.

In this new edition the plan of the first edition has been closely followed. However, the substance of the previous edition has been completely revised and rearranged, and much new material has been added, including chapters on psychiatric disorders and the common vascular disorders of the extremities. The whole subject of chemotherapy has been completely rewritten to include the uses and abuses of penicillin and streptomycin and to compare their efficacy with that of the sulfonamides.

Descriptions of other new therapeutic methods of proved value or of great promise have been added. Among these are: lumbodorsal sympathectomy in selected cases of hypertension; the rice diet in hypertension and certain kidney diseases; high protein diets and protein hydrolysates in malnourished states; folic acid in macrocytic anemias and sprue; serum albumin in circulatory failure and nephrotic states; gamma globulins in the prophylaxis and treatment of measles and infectious hepatitis; chloroquinine in malaria; paraamino-benzoic acid in rickettsial diseases; penicillin in syphilis and other infectious diseases; thiouracil and propylthiouracil in hyperthyroydism; estrogen therapy and castration in cancer of the prostate; benadryl and pyribenzamine in allergic disorders; cytochrome C in anoxic states; tridione in psychomotor disorders; heparin and dicumarol in vascular emergencies; and many others.

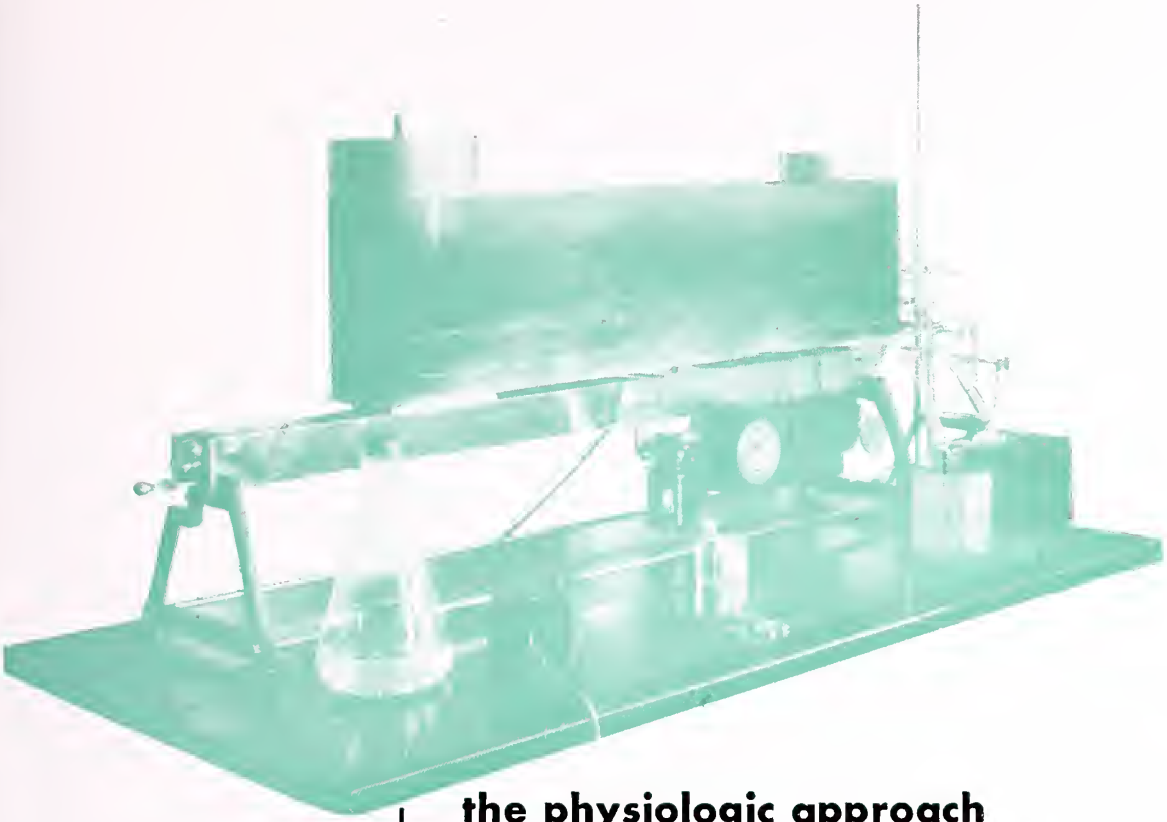
The book is well written. Intensely practical, it will be a valuable addition to any doctor's library.

A Textbook of Clinical Neurology—With an introduction to the History of Neurology by Israel S. Wechsler, M.D., Clinical Professor of Neurology, Columbia University. Sixth edition. Pg. 829, with 162 illustrations. Cloth. Price $8.50. Philadelphia: W. B. Saunders Company, 1947.

Wechsler's textbook of neurology covers the essentials in this field, condensing the material into a reliable, brief and systematic form. New drugs and methods of treatment make it imperative for the practicing physician, in keeping abreast of the times, to make frequent refferences to a work of this type. The sixth edition includes the practical aspects of sulfa, penicillin, and associated modern therapy. More extensive consideration is being given today to disordered physiology and its relationship to pathological processes. That trend is prominently reflected in Wechsler's work.

The psychological aspects and the various clinical psychological tests used to determine brain function are also given more detailed consideration, which is helpful. In dealing with the neuroses Wechsler favors the philosophy of Freud, concepts which, although popular at present, are far removed from those of sound scientific neurology. Although frequent repetition adds to the bulk of the book, it makes for clarity and emphasis, and aids in completeness when a quick reference is desired. As a teaching principle repetition is beneficial for the student.

This is an excellent textbook for the medical student and practicing physician.



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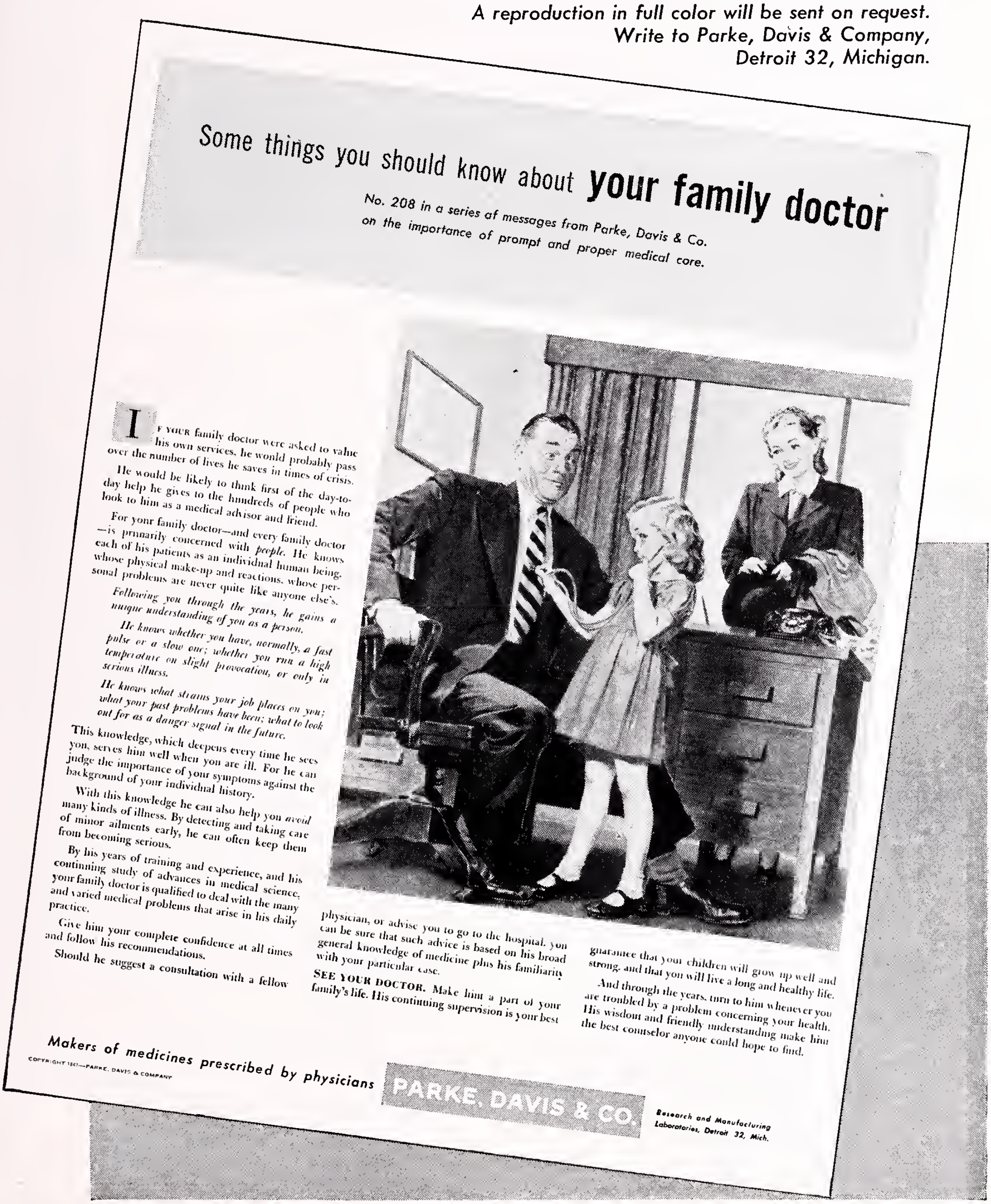

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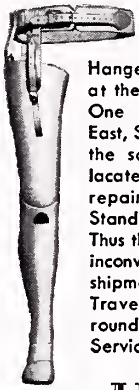

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**Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*

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*R. H. Follis, D. Jackson, M. M. Eliot, and E. A. Park: Prevalence of rickets in children between two and fourteen years of age, Am. J. Dis. Child. 66:1-11, July 1943.

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Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 19
NUMBER 12

DECEMBER, 1947

Per Copy, 50c
Per Year, $4.00

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Entered as second-class matter June 28, 1929, at the Post Office at Wilmington, Delaware, under the Act of March 3, 1879. Editorial Office, 822 North American Building, Wilmington, 7, Delaware. Business Office, Farnhurst, Delaware. Issued monthly. Copyright, 1947, by the Medical Society of Delaware.

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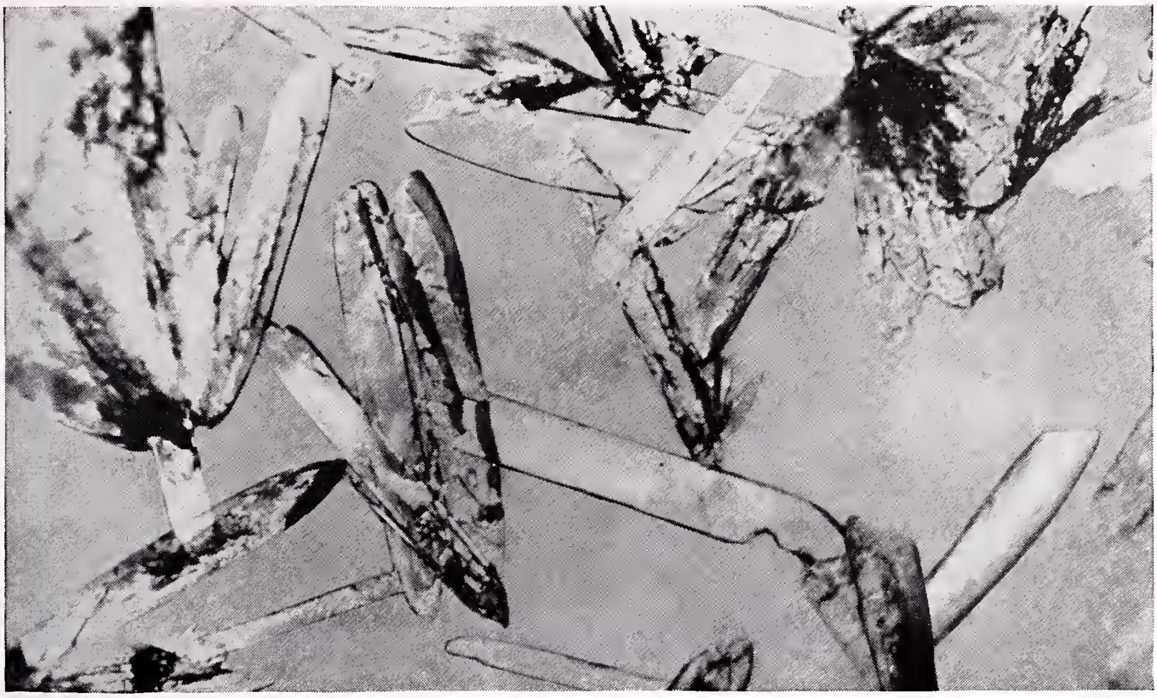

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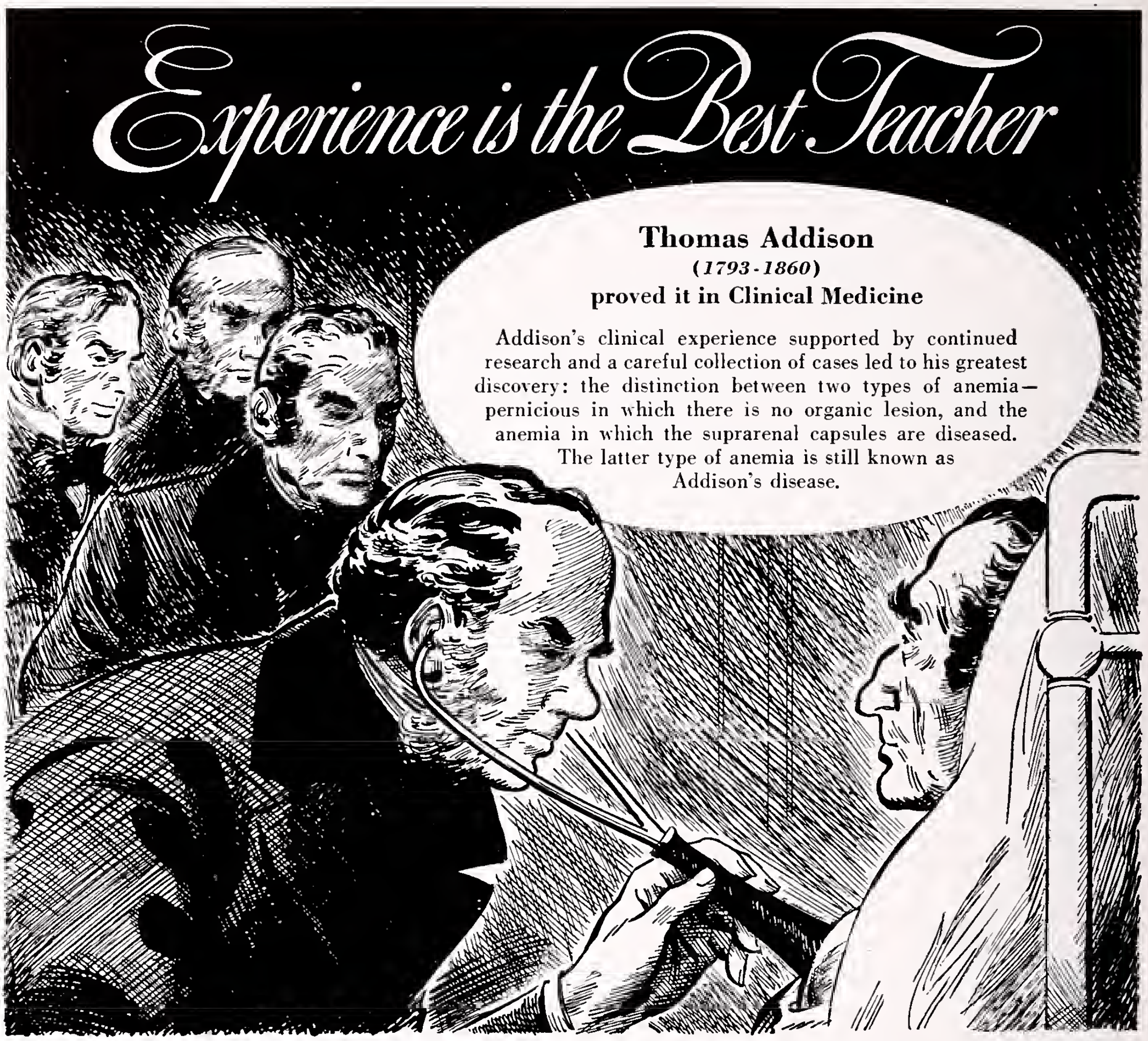
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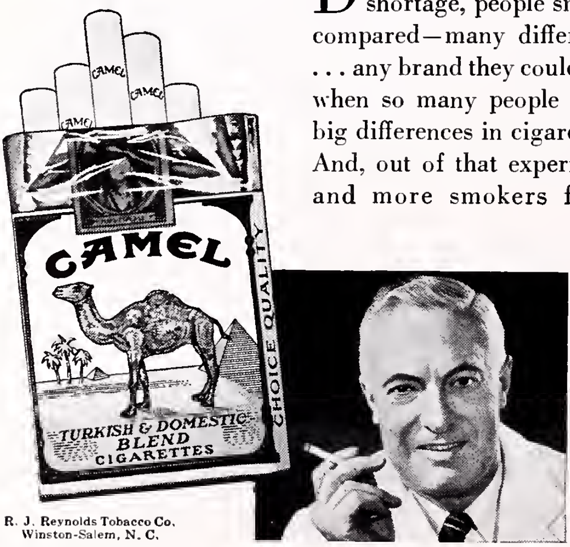

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
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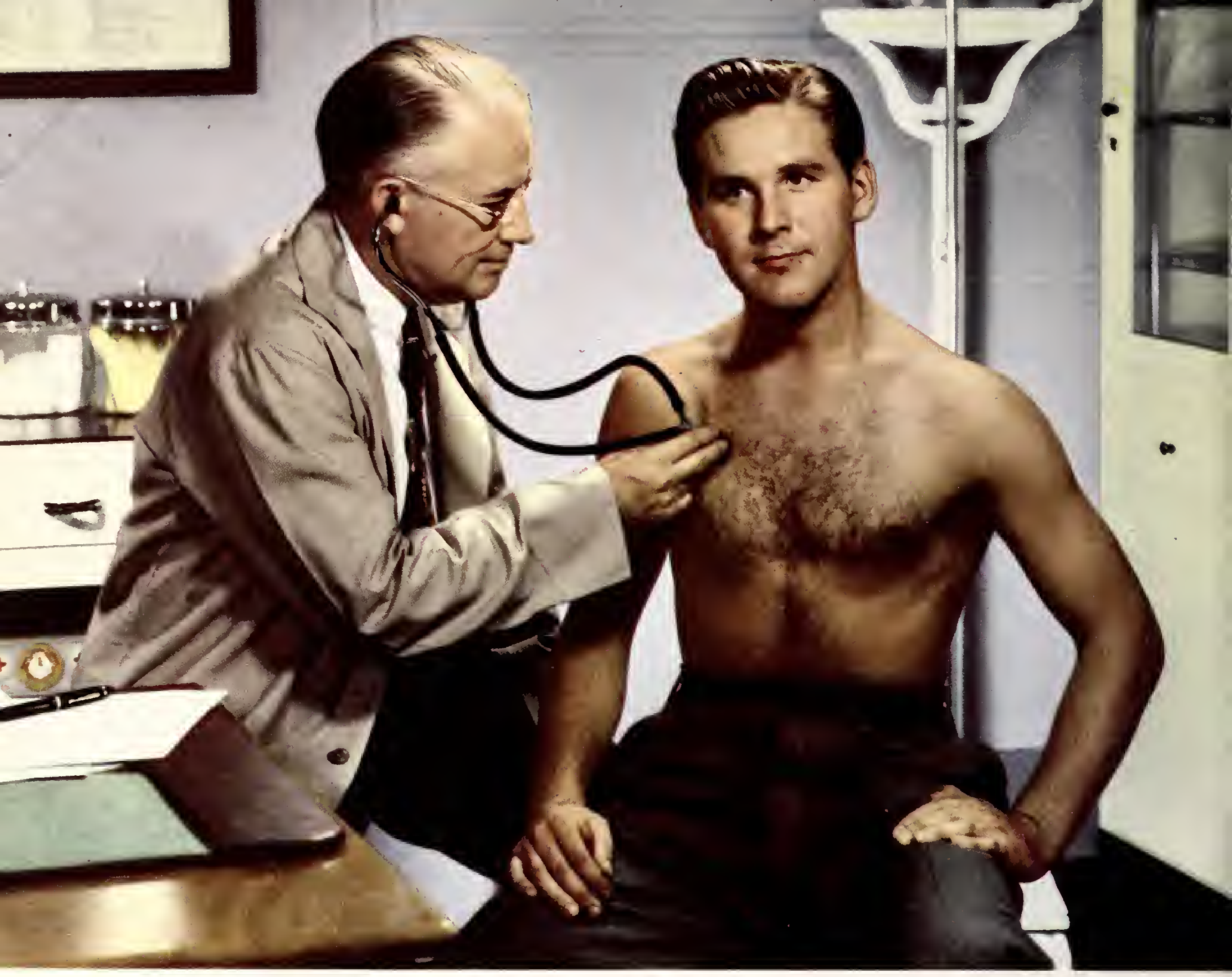

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DELAWARE STATE MEDICAL JOURNAL

Issued Monthly Under the Supervision of the Publication Committee
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VOLUME 19
NUMBER 12

DECEMBER, 1947

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URETERAL CALCULI WITH SYMPTOMATOLOGY REFERRABLE TO OTHER ORGANS

E. L. Stambaugh, M. D.,*
Lewes, Del.

The diagnosis of urinary calculi may be difficult because of vague and protean complaints. Clinically, symptoms fall into three groups: (1) those causing typical colic; (2) those in atypical cases which are referred to other organs; and (3) those which are persistently "silent."[1] Pain, according to Braasch, is referred to the kidney in 67 per cent of cases, to the right upper quadrant, simulating gall stones, in 15 per cent, and to the right lower quadrant, simulating appendicitis, in 9 per cent. There is a small group in which symptoms relate to the spine, or in women to the genital organs.

All practitioners share responsibility in the accurate diagnosis of ureteral calculi. The gastroenterologist, particularly, sees patients exhibiting stones with gastroinestinal complaints. Rehfuss[2] calls attention to the small percentage of patients with digestive disturbances who have organic disease of the stomach. A surgeon's first impression of gall bladder disease or appendicitis frequently needs support by precise methods of diagnosis. He must differentiate the referred pain of ureteral calculus if he is not to add to the already large number of appendectomies or cholecystectomies done due to mistaken diagnoses.

The radiologist has a definite interest in ureteral calculi in two directions. X-rays may (1) fail to show a stone when one is present, or (2) cause an extramural shadow to be mistaken for a stone. The first group includes uric acid and cystine calculi; the second group includes phleboliths, fecaliths, or calcerous glands. A correct diagnosis by x-rays varies with different statistics, up to 95 per cent.

The diagnosis of neurosis should certainly be made with caution. Neuropsychiatrists listen to a great deal of protean symptomatology. The remark was made in jest that one of our patients had a "psychoneurosis with organic manifestations." The patient had ureteral calculi. There is also the gynecological-orthopedic problem of low-back pain.

In cases of ureteral stone with atypical symptomatology, urinary complaints are often few. A stone may be present over a number of years without much kidney destruction. Urine examinations are frequently negative. A few blood cells call for study. We recall such a case in which gastrointestinal symptoms predominated. A gastroenterologist had done a gall bladder series. There was, however, microscopic blood in every urine specimen. A kidney-ureter-bladder x-ray revealed a sizeable calculus in the upper portion of the left ureter.

As stated above, approximately 25 per cent of urinary calculi cause symptoms referrable to the gastrointestinal tract. Gall bladder dyspepsia may be simulated by a calculus. Such symptoms as epigastric pressure, fullness after eating, generalized or right-sided pain often point to gall bladder disease. Pain of ureteral stone, although usually low in the pelvis, may be so near the right lower quadrant that appendicitis is considered. Unless symptoms are severe and definitely indicate appendicitis, a careful urological examination should be made. A good rule is to keep the urinary tract in mind before as well as after operation.

In the left iliac fossa, symptoms of ureteral stone may simulate those of colon disease, intestinal obstruction, or acute diverticulitis. Calculous colic may be mistaken for intestinal colic, particularly if distention is marked. It produces frequently the physical sign of resistance of the abdominal wall over the site of ureteral pain. A case in point with symptoms suggesting colon disease, is that of a woman, aged 62, who complained of left iliac pain, constipation and diarrhea, and loss of thirty pounds of weight while under treatment. Regardless of a history of a kidney stone twenty years previously, we are impelled to order a barium enema. The preliminary KUB revealed a staghorn type stone in the left kidney pelvis. The enema study was negative. (Fig. 1)

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* Attending Surgeon, Beebe Hospital.

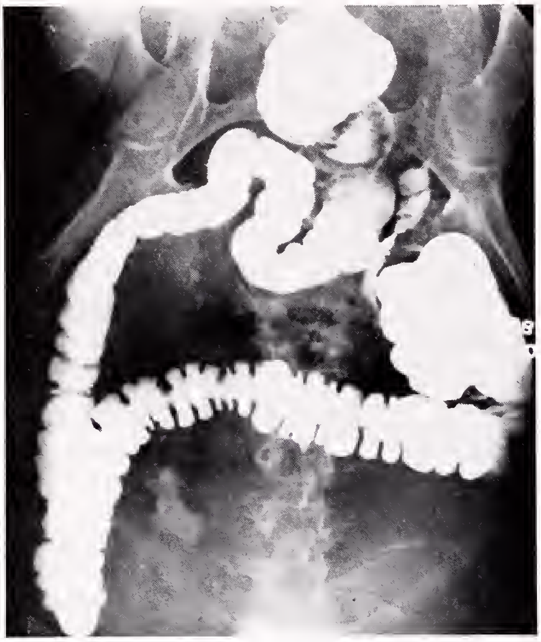

Fig. 1—X-ray of a barium enema, with a stag horn calculus of the left kidney pelvis. A preliminary film should be made. Barium could easily overshadow a calculus.

Vomiting associated with calculus is usually regarded as toxic, even when the blood chemistry is normal. In stone cases with uremia, the stomach, according to Rehfuss, plays the role of vicarious elimination.

A much smaller group of patients with calculi have symptoms referrable to the genital organs in women. The fact that most stones impact in the lower ureter and yet cause symptoms referrable to the kidney, gall bladder, or appendix leaves the picture of the differential diagnosis of ureteral calculus and pelvic disease less confusing. The ureteral origin of referred pelvic symptoms should be suspected when a catheterized specimen of urine shows pus or red blood cells.

It is serious to label ureteral pain as due to a menstrual disorder or to retroflexion. Another thought is that too much faith has been placed in certain gynecological operations. When patients who have had a suspension operation or a salpingectomy subsequently complain, the idea that "everything has been done" should be viewed with a certain amount of skepticism. Twenty-five per cent of patients with calculus disease studied at the Massachusetts General Hospital had previous surgery.[3] A more thorough urologic investigation will avoid error, particularly if the two conditions coexist.

If low back pain is due to calculus, x-rays will more accurately establish the diagnosis. The orthopedic surgeon is tripped less frequently because x-ray studies of his patients are so often a routine procedure.

Differential study of extramural shadows is often difficult. We set out to differentiate "vein stones" or phleboliths by ureteral catheterization, pyelography, or the use of a wax tipped catheter. Calcified glands along the mesentery are usually multiple and occur in groups. Their position changes with successive x-rays. A radio-opaque catheter will show the calcifications at some distance from the ureter, particularly in the oblique view.

CASE REPORT

Mrs. H. B. W., age 39, was admitted to the Beebe Hospital, November 22, 1946, was referred by her family physician for urinary tract studies. Her chief complaints were pain in the back and right side of abdomen, nausea and vomiting. A KUB x-ray was reported as follows: "Kideys are poorly outlined. There is evidence of a calculus in one of the lower calices of the right kidney. There is a density within the right ureteral line near the vesical junction which is not identified." A retrograde study was reported: "Plain film with catheter in the right ureter: The previously described shadow in the ureteral line near the right vesical junction is now seen opposite the fifth lumbar body adjacent to the ureteral catheter. This is apparently an elongated calculus in the ureter."

These studies wrote a final diagnosis to a long history of vague abdominal complaints. This patient had been hospitalized several times. She had had three gall bladder series and one gastrointestinal x-ray series. A number of physicians had seen her for acute pain. In 1939 she had a subtotal hysterectomy, bilateral salpingectomy, left oophorectomy and appendectomy for symptoms which dated to 1936. Her history stated that she had low abdominal pain which was usually worse near the menses. Pain had also been present in the small of the back, in the epigastrium, and in the right lower quadrant. Nausea and vomiting had been present two weeks. Examination revealed tenderness in the epigastrium and both lower abdominal quadrants. Catheterized specimens were reported as negative to trace of albumin, with occasional pus cells. The author of this history gave pyelitis third place in his diagnostic impressions.

At operation, specimens of uterus, tubes and left ovary were not remarkable. There was oxyuriasis of the appendix. Exploration of the gall bladder was negative.

Subsequent to operation the patient complained of frequent attacks of nausea and vomiting. Food relieved her sick stomach. Pain was present in either the epigastrium or in the right lumbar region. She stated that her pain "felt like appendicitis." There were no urinary complaints. Hypodermics were often necessary for relief.

The patient returned to the hospital in 1941 for study. After examination impressions were (1) chronic cholecystitis, (2) gastritis, (3) pelvic inflammation, (4) necrotic tonsils. Urine examination negative. A gall bladder series was reported as negative for stone.

A year later she turned to a chiropractor. She felt better after treatment but quit the cult when he placed her on a diet not to her liking.

During the next three years the patient changed physicians freely. Tonsillectomy was performed in 1943. Radium was used in 1944 for a "growth on the cervix." She still had epigastric and lumbar pain. Her family physician found "something wrong with her urine" and thought she might have kidney stones.

Before this intuition was heeded, the patient had two more gall bladder series and a gastrointestinal series that were essentially negative. A review of these films is negative for ureteral calculi, but a preliminary film was not taken. There is little doubt that the calculi were there but shadowed by the opaque barium media.

A gynecologist was consulted in May, 1946. He reported the pelvis negative but advised further search for pathology.

In July, 1946, the patient was hospitalized with a diagnosis of acute cystitis, bilateral pyelitis, and arteriosclerotic heart disease. She complained of fever, chills, headaches, backache, nausea and vomiting and dysuria of two weeks duration. She was tender in the hypogastrium. Urine was reported as showing a trace of albumin, with 10-20 pus cells. By way of comment, this was the first indication of infection superimposed on the obstructive uropathy of this case.

In November, 1946, the patient was referred to the Beebe Hospital for urologic studies. X-ray examinations, referred to above, established the diagnosis of ureteral calculi. Her complaint on admission was lumbar pain. Physical examination was negative except for slight tenderness over the right kidney. Urine showed a faint trace of albumin, with occasional clumped pus cells in one specimen. A great many specimens, however, were negative. A urine culture from the right kidney showed gram negative bacilli and gram positive staphylococci and streptococci. Non-protein nitrogen was 61 mgm. per 100 cc. of blood. Wassermann and Kahn tests were negative.

Treatment intended to remove the calculi

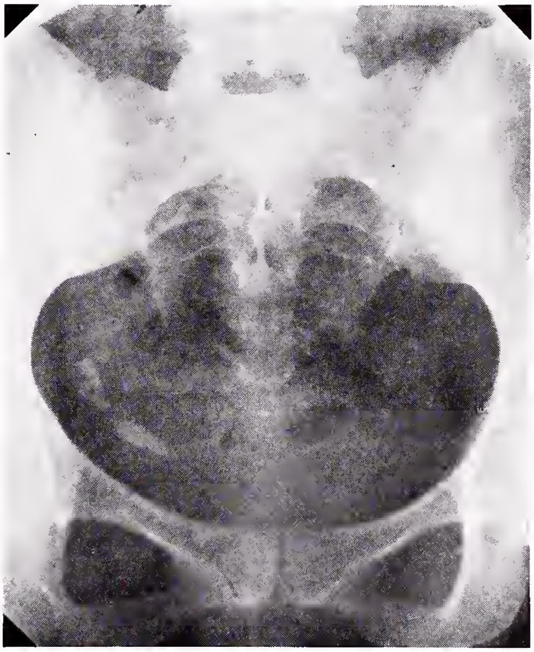

Fig. 2—X-ray of two calculi in tandem in the ureter. The upper calculus descended the ureter from a position in the lower calyx of the kidney pelvis after manipulation of the lower calculus.

was difficult. One stone was in the lower calyx of the right kidney, another stone was in the lower right ureter. Three number 6 catheters were introduced into the ureter in an attempt to engage the lower calculus. A week later the calculus in the renal pelvis descended the ureter to lie in tandem with the ureteral calculus. (Fig. 2). The first calculus passed in six weeks. (Fig. 3).

The patient had comparatively little pain and fever reaction at any time. On one occasion a diagnosis of obstructive uropathy was suggested by pain, chilliness and fever. Urine from the right kidney was under increased pressure. The kidney pelvis was drained for two days with prompt relief. In an effort to liberalize the second stone a ureteric meatotomy was done. Rather severe bleeding followed this procedure. This was controlled with instillations of 1:1000 solution of adrenalin, drams 1 to pint 1 of sterile water, and a solution of silver nitrate 1:10,000. It was possible to pass three catheters into the ureter before the stone became impacted. (Fig. 4).

In May, 1947, the calculus was palpable by vaginal examination. It now seemed feasible, after aiding and waiting for five months, to try to approach the removal of the stone by the vaginal route. Dr. Thaddeus Montgomery was consulted, and the following is quoted from his operative record:

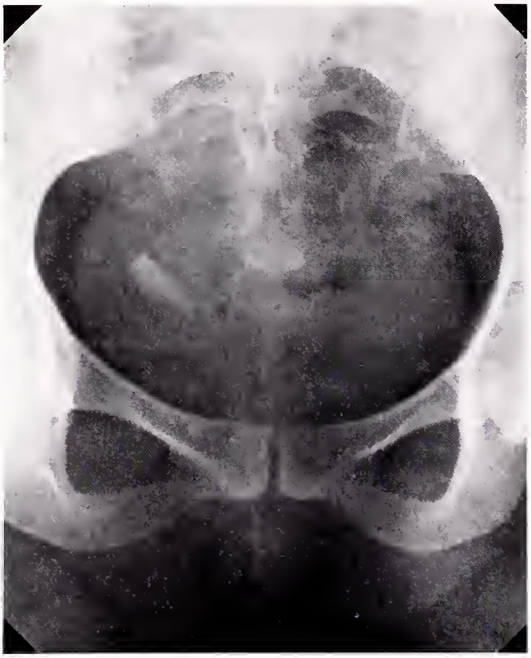

Fig. 3—X-ray after cystoscopic manipulation. The lower calculus had passed.

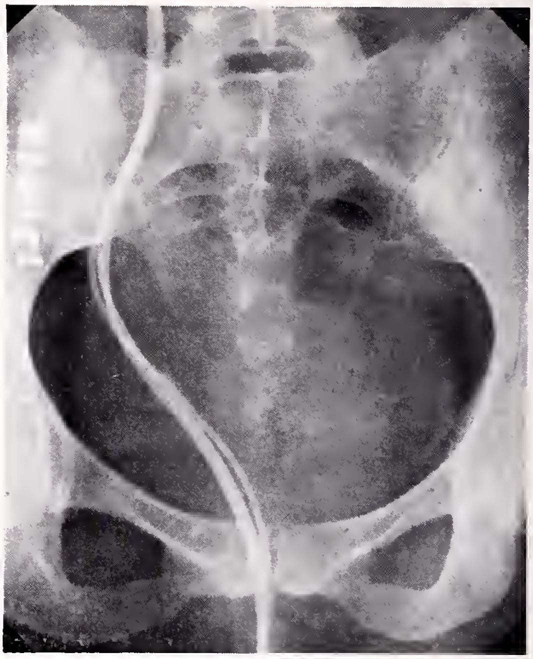

Fig. 4—X-ray showing remaining calculus and three catheters in the ureter.

"A median episiotomy was done. The anterior vaginal wall was incised in the midline of the cervix to about one inch beneath the urethra and around the right side of the vagino-cervical junction. This vaginal flap was dissected from the underlying vesico-vaginal fascia and base of the broad ligament. The vesico-cervical junction was incised and the bladder dissected upward from the cervix, the right parametrial region explored with the palpating finger and after some time the stone was felt beneath the right side of the bladder lying in the ureter just anterior to the broad ligamen. With the finger the stone and ureter were pressed forward against the parametrial and paravesical fascia and incision was made directly down on the calculus.

"Calculus was found to be yellow in appearance about one inch long, containing many spicules which attached it very firmly to the ureter and impacted it in its bed.

"Incisions in the anterior vaginal wall, anterior and lateral surfaces of the cervix were closed with interrupted sutures of #0 chromic. Topical thrombin was injected in the space to the right of the cervix to control venous ooze. A small Penrose drain was placed down to the opening in the ureter. The median episiotomy was repaired. A catheter was placed in the bladder.''

The patient's post-operative progress was satisfactory. The Penrose drain and catheter were removed on the third day. The patient went home on the ninth post-operative day. The site of the calculus had been dilated with a #10 bougie on two occasions. When last seen she had no symptoms referrable to the kidney or other organs.

Conclusions and Summary

1. The diagnosis of ureteral calculi may be difficult. It is not intended, however, to laud ureteral catheterization and pyelography.
2. All practitioners share responsibility in the diagnosis of urinary calculi with symptoms referred to other organs. As a team we are responsible for a good history, complete physical examination, urine and x-ray examinations, and possibly ureteral catheterization and pyelography.
3. In difficult cases these diagnostic criteria are necessary prerequisites to good treatment and in the avoidance of unnecessary operation.
4. Keep the urinary tract in mind before as well as after operation.
5. A case of ureteral calculi is reported. Much time, suffering and expense were involved in reaching a diagnosis.

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PROCEEDINGS OF MEDICAL SOCIETY OF DELAWARE

TUESDAY MORNING SESSION

October 14, 1947

The One Hundred and Fifty-eighth Annual Session of the Medical Society of Delaware convened at nine forty-five o'clock at the Delaware Academy of Medicine, Wilmington, Dr. W. Edwin Bird, President of the Society, presiding.

President Bird: The Society will please come to order. We are opening the 158th Annual Session since the active incorporation of the Society. As I shall tell you tomorrow—I have looked up a little bit of the history—we are actually holding the 170th Session perhaps, because there was a Society in Delaware for twelve years before the Society was incorporated.

We will have the invocation by the Reverend Arthur W. Goodhand, Jr., Assistant Minister, Grace Methodist Church, of Wilmington. Reverend Goodhand.

. . . Reverend Goodhand then delivered the invocation . . .

President Bird: The next is a word of welcome by a man who needs no introduction, the Honorable Joseph S. Wilson, Mayor of Wilmington.

Honorable Joseph S. Wilson: I will get up here on the platform. Dr. Bird, Gentlemen and Members of the Medical Society of Delaware: these dates and numbers of years which you are stating, 170 years, you must be the oldest society in Delaware of any kind outside of the churches, certainly the oldest scientific society, and I congratulate you on your long life.

There isn't much I can say to you in the line of your professional interests. I suppose you will hear plenty of that from others. I know you are back now after a long ordeal in the war in which your profession contributed so much to the welfare of our troops.

You might be interested if I say a few words about our plans in Wilmington—what we are doing along lines affecting the health and welfare of the citizens. This exhibit which you have out in the entrance hall of the Delaware State Board of Health gives me something to talk about, and that is sewage disposal. You know the problem as it is portrayed graphically to you out there, but you may not all be informed as to the status of the program.

Back in 1935 or 1937, thereabouts, our state Legislature passed an act authorizing the entering into an agreement with other states, New York, New Jersey and Pennsylvania, a compact, the ultimate terms of which are that we have agreed that Wilmington sewage will be treated by proper disposal plants to certain named standards by 1951. That is four years from now. We became aware of that. The City officially started to work on it early this year.

Mr. Beckett, the State Sanitary Engineer, came up and talked to us about it and told us the situation. Philadelphia and Chester and many of the other cities up the river are already proceeding, so we knew we had to create some kind of time table.

The Legislature of 1949 is the one we are headed for because it will be necessary to have legislation on it. We know that we have to have good designing engineers on this project. This project for Wilmington will be in the neighborhood of $6 million. That is our present estimate. So we had a board of distinguished and able citizens formed to select competent engineers to design this plant. That committee consists of Everett Eckhardt, ex-chief engineer of our power company, Mr. Hansen and Mr. Wilson, engineers at the Hercules Powder Company, thoroughly competent men, and they are just about to name the engineering firm.

In the meantime we have borrowed $175,000 from the government under a no-interest plan and not to be paid until the project is accomplished, and that money will be used for the designing of this plant. We are going to proceed promptly with the designing of the sewage disposal plant and be ready for the next session of the Legislature.

Now those actions were in the papers when they were announced, but they put them in small paragraphs, with not much heading, because they are not sensational, but when somebody sees an open sewer, that is sensational and it gets big headlines.

This project is to eradicate all of the sewers and put the sewage situation in Wilmington in, I won't say perfect condition, but in a modern well-to-do condition.

We have also accomplished other projects of that kind. The new Brandywine sewer, which never got much publicity, which was used for replacing the old siphon which goes above the Brandywine, above the mouth of the drinking water race, that had been reported dangerous for several years and that was letting the sewage from Northwest Wilmington and the Bancroft plant go in our drinking water race, is well under construction.

The 9th Ward Storm Sewer, which was causing a very serious condition over there, is practically finished.

Those matters are not sensational. They are routine and they never strike the imagination of the newspaper people or the public, but they are constructive actions by the city authorities to improve the general health and welfare of the people.

I think it worth while to state them to you so that you, who are the ones to judge such conditions more than the layman, can know that the city is not asleep.

I congratulate you on your long life and hope you will continue to be very prosperous and successful.

Thank you very much.

PRESIDENT BIRD: Thank you very much, Mayor Wilson. It is a pleasure to have you. Thank you for your instructive and informative remarks.

Next on the program is the report of the House of Delegates by the Secretary.

. . . Secretary Hynes then presented the Report of the House of Delegates (see Transactions, this issue).

PRESIDENT BIRD: Thank you, Mr. Secretary. You have heard the report of the House of Delegates. It is a brief but adequate resume of last night's transactions.

Supplementing the report of the Committee on the Revision of By-Laws, I present to this meeting this morning these proposed by-laws, in accordance with our present By-Laws that proposed By-Laws shall be presented at the general session of the Society and then sent to each county Society at least two months prior to the meeting at which action is to be taken. Since the schedule calls for a meeting in Rehoboth on September 13, 1948, these By-Laws will be sent to them three months in advance so that the county societies will become fairly familiar with the proposals, and then they will be acted upon by the House of Delegates in 1948.

Now we come to the Scientific and Clinical portion of the program.

The first paper, the Electrocardiogram in Relation to Clinical Medicine, by Dr. A. Henry Clagett of Wilmington, Associate Cardiologist, Memorial Hospital. Dr. Clagett.

. . . Dr. Clagett presented his prepared paper, which was discussed by Drs. H. W. Gray and J. R. Durham.

PRESIDENT BIRD: Next on the program is the Clinical Significance of Hemoptysis in Chronic Nontuberculous Diseases of the Chest, by Dr. Gerald A. Beatty, Chest Clinic, Memorial Hospital.

. . . Dr. Beatty presented his prepared paper, which was discussed by Drs. W. M. Pierson, J. M. Messick and I. M. Flinn.

PRESIDENT BIRD: Next is The Anemias, by Dr. John W. Howard, Pathologist, Delaware Hospital. Dr. Howard.

. . . Dr. Howard presented his prepared paper, which was discussed by Drs. D. M. Gay and Charles Levy.

PRESIDENT BIRD: We will proceed to the next paper, which is the first presentation by a doctor who is not a member of the Medical Society of Delaware; you notice this is predominantly a "home-town" program, falling in line with the requests of our members from time to time throughout the year. The next paper will be Treatment of Marie-Strumpell Arthritis with Roentgen Rays, by Dr. Howard H. Ashbury, Assistant Radiologist, Johns Hopkins Hospital. Dr. Ashbury.

. . . Dr. Ashbury then presented his prepared paper which was discussed by Drs. D. J. King and L. B. Flinn.

PRESIDENT BIRD: They tell me that it takes twenty minutes to drive to the Country Club on account of the detour. Would it be agreeable to you, Dr. Williams, to carry over to the afternoon session?

DR. WILLIAMS: It is perfectly all right.

PRESIDENT BIRD: This is all we can do here this morning. The New Castle County Medical Society invites all of you to be their guests at luncheon at the Wilmington Country Club. On your way out those who have not registered please do so, and get your badge and wear it. Also, those who plan to come to the dinner may get their dinner tickets now or at the door of the hotel.

The meeting stands adjourned. Please be here promptly at 2.00 o'clock.

. . . Thereupon the meeting adjourned at 12:15 o'clock . . .

TUESDAY AFTERNOON SESSION

October 14, 1947

The Scientific Session reconvened at 2:10 p. m., President Bird presiding.

PRESIDENT BIRD: The Society will please come to order. We will continue the program where we left off this morning. The next presentation will be "Lymphocytic Choriomeningitis," by Dr. Arnold H. Williams, of Laurel.

. . . Dr. Williams presented his prepared paper, which was discussed by Dr. D. J. Pollak.

PRESIDENT BIRD: Gentlemen, since we are already one whole paper behind on the schedule, the discussions from now on this afternoon will have to be brief, otherwise this meeting will run on to an inordinate length.

PRESIDENT BIRD: Now we will come to another paper by a member of the profession who does not belong to the Delaware Society, but a man who is well known to the men here. He has been here a couple of times. He spoke at the St. Francis staff meeting and at the New Castle County Medical Society once. It is always a pleasure to hear him again. I take pleasure in introducing Dr. Arthur M. Shipley, Professor of Surgery, University of Maryland, who will present the subject "Diverticulosis of the Colon."

. . . Dr. Shipley presented his paper, which was discussed by Drs. L. C. McGee, B. M. Allen and J. G. Spackman.

PRESIDENT BIRD: The next subject is the Vaginal Smear: Its use in the Diagnosis of Uterine Cancer, by Dr. John W. Hooker.

. . . Dr. Hooker presented his prepared paper, which was discussed by Drs. D. N. Stern and S. W. Rennie.

PRESIDENT BIRD: The Chair takes this opportunity to thank Dr. Hooker of New York and Dr. Farr of Wilmington for yielding their turn on the program.

Dr. Miller, Dr. Krieger and Dr. Durham have a group of patients waiting outside and some of them, I guess, are young and are quite impatient. They will bring in their presentation now.

. . . Dr. Miller then presented, with case histories, fifteen patients with congenital heart disease . . .

PRESIDENT BIRD: We want to take this occasion to thank these fathers and mothers and these patients for coming here this afternoon, and Dr. Miller and associates for this presentation. It is a great pity we don't have a little more time for it, but out of consideration for those who are yet to be heard on the program, we simply had to speed the thing up a little bit.

We come now to "Management of Cancers of the Head and Neck," by Dr. Alfred E. Hocker of New York, Attending Surgeon, Memorial Hospital and Director, Cornwall Tumor Clinic.

. . . Dr. Hocker presented his prepared paper, which was discussed by Drs. E. G. Laird, J. C. Pierson and J. F. Hynes.

PRESIDENT BIRD: Now we come to the concluding paper, "The Protein Requirements of Childhood," by Dr. Lee E. Farr.

Dr. Farr presented his prepared paper, which was discussed by Dr. J. W. Maroney.

PRESIDENT BIRD: The Chair will now entertain a rising vote of thanks for every essayist who has been on the program today and for all those who have been kind enough to discuss the papers.

The Society rose.

. . . Thereupon the meeting adjourned at 5:45 o'clock . . .

At 7:30 p. m. the Annual Banquet of the Society was held in the Du Barry Room of the Hotel Du Pont, with a large attendance of the members, the Auxiliary, and invited guests headed by the Governor, Hon. Walter W. Bacon. The address of the evening was made by Marjorie Shearon, Ph. D., of Washington, D. C., research analyst, late of the U. S. Senate Committee on Labor and Public Welfare. Her subject was, Federal Propaganda for the Welfare State, and was heard with rapt attention. Among those who spoke briefly before this address were the Governor and Mrs. Luther H. Nice, President-elect of the Woman's Auxiliary to the A. M. A.

WEDNESDAY MORNING SESSION

October 15, 1947

The meeting convened at 10:15 o'clock, President Bird presiding.

PRESIDENT BIRD: The Society will please come to order.

The first paper this morning is "Intestinal Obstruction in the New Born," by Dr. Daniel J. Preston, Attending Surgeon, Delaware, St. Francis and Wilmington General Hospitals.

Dr. Preston then presented his paper, which was discussed by Drs. O. A. James and R. O. Y. Warren.

PRESIDENT BIRD: The next paper is "The Present Status of Diabetes Mellitus," by Dr. Louis B. Flinn, Director of Medicine, Delaware and Memorial Hospitals.

. . . Dr. Flinn presented his prepared paper, which was discussed by Dr. J. M. Barsky.

PRESIDENT BIRD: Next on the program is "An Approach to the Problem of Alcoholism," by Dr. C. Nelson Davis, Physician in Charge, Saul Founddation and Director of Research on Alcoholism, St. Luke's and Children's Hospitals.

Dr. Davis then presented his paper, which was discussed by Drs. M. A. Tarumianz, E. R. Mayerberg and H. T. Maguire.

PRESIDENT BIRD: Next on the program is a paper on the "Present Trends in Prepayment Medical and Hospital Care Plans," by Mr. Harold V. Maybee, Managing Director, Group Hospital Service, which is the Delaware Blue Cross Plan.

. . . Mr. Maybee then presented his prepared paper, which was discussed by Drs. V. D. Washburn and James Beebe.

PRESIDENT BIRD: I feel the hour is so inordinately late that I have it in mind to skip this paper of mine.

MEMBERS: No, no.

PRESIDENT BIRD: Do you want to stay? I will read parts of it then, and read rapidly, and rush through, which I don't like to do, but which I will have to do.

. . . President Bird then presented parts of his prepared address on New Light on the History of Medicine in Delaware.

PRESIDENT BIRD: Thank you for your generous applause: it is more than I expected.

We now come to the concluding piece of business of this Session and that is the selection of the President for the year 1948. By the usual system of rotation of Presidency it now goes to Sussex County.

DR. BARNES: Mr. President, realizing the lateness of the hour, I will dispense with all description of the qualifications of my candidate, and wish to present for nomination for President, Dr. Howard S. Riggin, Sr., of Seaford.

DR. BEEBE: I second the nomination.

DR. TARUMIANZ: I move the nominations be closed.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: It has been moved and seconded that the nominations be closed and, I presume, that the Secretary cast a ballot of election.

MEMBER: No, by a standing vote.

. . . The members arose and applauded . . .

PRESIDENT BIRD: I shall ask Dr. Barnes and Dr. Beebe, both of Sussex, to escort the President-elect to the rostum. Dr. Riggin, our heartiest congratulations.

PRESIDENT-ELECT RIGGIN: Ladies and Gentlemen: Now I know there is a first time for everything. Many of you have probably examined patients and told them, "I think you have a gall bladder condition." And they will say, "That is funny, I never had it before. This is the first time."

I cannot recollect any time—in fact, this is the first time I ever had stage fright in my life, but maybe I will get over it before I am through, which won't be long.

Many of the people who elect a man in ordinary life, not in professional life, don't even know the man. It is done by public opinion and the man is elected, but when you are elected by a group of men who know you, that is a different thing.

During the war I addressed audiences in lower Delaware on the subject of Civilian Defense. Well, I knew practically nothng about it and the public knew less, so I felt very much at ease, but when I come to the point of addressing a group of physicians who are working along the same line that I am, it takes a little more than ordinary nerve to control that tension or whatever it is.

I do want to say that it is well known that the keynote of success in anything is organization and cooperation. We have the organization and I have no fear whatsoever for the cooperation in the year 1948. The Society has lots of traditions and, of course, they should be upheld. I think that the main thing that this medical society and all other medical societies have at this time is a tremendous educational program. It is a well known fact that there are numerous political groups who are trying their best to hog-tie the medical profession and do with them as they please.

Any of you who heard that paper, and most of you did last night, by Dr. Shearon, know pretty well what I am talking about. I think we should take means of coordinating the mind of the public with the mind of the medical profession to the extent of impressing upon them that the art of healing and preventing disease is a profession and not a business, and make them mindful of the fact that all the the work that is being done by the profession, all the research work and all the tremendous study that is being done, is not being done for the edification of the physicians; it is being done to take care of 140 million people in this country. They get the benefit of our work. So I think, through the press, through the civic clubs and other means like that, and in our daily talk amongst our patients, we can probably make them understand that they will be better off selecting their doctor and having their own family physician and being at liberty to have whom they want instead of having that handled by some efficiency expert in some office who is not a physician. Put two and two together and understand what I mean.

I am looking at the clock, too. I had several things that I might have said but which for two reasons I will not; because most of them have left and gone out the window, and because we are all looking at the clock and I know you are hungry.

I do hope that in 1948, September 13th, as many from this area will come to the meeting of this Society at Rehoboth Beach. We will try to have a good program. I will try to keep you well informed beforehand and several times beforehand as to when the meeting will be and I will also have you informed of the different places there where you can stay, because in September in Rehoboth it is very delightful, (unless we get a northeaster), and two or three days down there might be considered very nice by your families.

So I want to thank the Society for this honor, and it is really—I consider it even in my private life, or military life, or professional life, the highest honor I have ever had conferred upon me, and I thank you all very much.

President Bird: Dr. Riggin, I am sure the Society faces the year 1948 with perfect equinimity in the expectation that your administration will be highly successful.

Now this brings to an end the proceedings here, except for one fundamental thing and that is luncheon. The Society invites all of you, the guests, members and the Auxiliary to repair to the Rainbow Room at the Hotel Rodney for luncheon.

The meeting stands adjourned.

. . . Thereupon the meeting adjourned at 1:30 o'clock . . .

TRANSACTIONS: HOUSE OF DELEGATES

October 13, 1947

The regular meeting of the House of Delegates of the Medical Society of Delaware convened at the Delaware Academy of Medicine, Wilmington, October 13, 1947, at 8:00 p. m., Dr. W. Edwin Bird, President, presiding.

President Bird: Gentlemen, will the House of Delegates come to order?

The first thing on the agenda is the roll call. Mr. Secretary, will you please call the roll of delegates and alternates?

. . . The Secretary then called the roll, the members responding.

President Bird: The By-Laws provide for ten as a quorum, and we have 25 present. We declare a quorum present, so we will proceed with the regular order of business.

Next is the reading of the minutes of the last session.

Secretary Hynes: Do you want those?

President Bird: Ordinarily there is a motion to dispense with it, they having been printed in the journal.

Dr. Tarumianz: I so move.

. . . The motion was duly seconded . . .

President Bird: Dr. Tarumianz moved to dispense with the reading of the minutes. The motion has been seconded. All those in favor of the motion say, "aye." All opposed? The "ayes" have it.

Next is the Report of Officers, the first of those being the report of the President.

. . . President Bird then presented his report as follows:

Report of the President

We apologize for making no official visits to the county societies during the year. In extenuation, let it be said that there were no issues of statewide importance that demanded the presence of the President in the counties. However, we travelled twice to Philadelphia for the Regional Conferences on Medical Service of the A. M. A.; once to Chicago and once to St. Louis on A. M. A. Blue Cross committee work, and will go to Chicago again in November for the A. M. A.-V. A. Conference and also attend the Secretaries and Editors Conference. We have cooperated with the A. M. A., N. P. C., and Federal, state and city agencies many times throughout the year.

The Legislature of 1947 passed the Premarital Bill sponsored by this Society. No amendments were offered to the Medical Practice Act, but in 1949 we will be compelled to make changes in the law because of anticipated procedures that are beyond our control.

On March 8th Dr. Munson, under the stress of increased demands upon his time, resigned as Secretary. He volunteered to bring to a conclusion the fee schedule and contract with the V. A. for home care of veterans, which he will present here tonight. On April 1st Dr. Hynes was appointed Secretary of the Council. I wish to thank both of these physicians for their prompt, courteous, and efficient services, without which our task would have been almost unbearable. Unfortunately, Dr. Hynes is so pressed for time that he will not be able to serve after December 31st, so a new Secretary will have to be elected tonight.

The Budget Committee will present tonight an actual cash budget, in an effort to modernize the work of the Society. Any budget, at least for the first few years, will have to be of the trial and error kind, but it is definitely a step in the right direction.

As a time-saver for this House, we have asked the Secretary to induce committee chairmen whose reports have consisted largely of statistics to delete those statistics that will be published elsewhere by the State Board of Health and others, or else read them here by title.

The markedly increased utilization of the Blue Cross here within the past year, with its attendant rapid rise in costs to the Plan, is a matter of deep concern to every doctor in Delaware, and we have included a paper on this subject in the program.

The specter of socialized medicine is still with us, and thus we have arranged for an address at the dinner tomorrow evening by a person who knows the whole story of the regimenters from the inside out. The doctor who does not hear this address will be doing himself a professional disservice.

We recently filed with the Commissioner of Internal Revenue at Washington an affidavit for the exemption of our Society from the payment of Federal income taxes. We believe that, under the present law, we are not subject to this tax, and hope that the Commissioner will so rule.

In connection with the tie-up of regimentation, taxation, and unionization, it is a matter of great satisfaction to the medical profession that the 650 nurses of the Delaware State Nurses' Association have gone on record as being opposed to the unionization of nurses. They have had the wisdom to maintain themselves as a profession and not as a trade, and they are to be commended for their stand.

We suggest that the President be authorized to appoint a Special Committee on Industrial Health, and a Special Committee on Rural Health Service. Delaware is one of only two or three states that have failed to provide themselves with such committees, and the A. M. A. is urging us to do so promptly.

In conclusion, we thank the Society for the bestowal upon us of its highest honor—the Presidency. We shall always cherish the thought that our confreres saw fit to place this laurel upon our balded brow; and shall always endeavor to prove worthy of it.

Respectfully submitted,
W. Edwin Bird, *President*

President Bird: Under new business there are two matters I hope you will remind me of—these two committees. We have been urged to have the Society authorize this Committee on Industrial Health and a Committee Rural Health Service.

Next is the report of the vice presidents. First Vice President? Second Vice President? No report.

Secretary Hynes: Here is a report from Dr. Munson.

President Bird: Is that the VA matter?

Dr. Munson: I have no voice in the House of Delegates.

President Bird: We will be glad to have you take the floor, sir.

. . . Dr. Munson then presented his report covering activities as Secretary, January 1, 1947 to March 8, 1947, as follows:

Report of the Secretary

January 1, 1947 to March 8, 1947

The Secretary busied himself with routine correspondence and the large task of trying to map a schedule of fees with the Veterans Administration. This schedule was a 25 page, single spaced affair requiring a fee for each item. The Secretary presented to the Veterans Administration, three completed schedules, which were either turned down or returned to be transferred to new type forms, which seemed to be changed with startling regularity. Since his retirement from office, the Secretary has completed the last schedule which he will present to the Veterans Administration and hopes it will finally be accepted.

On March 7, 1947, the Society was host to a group of distinguished medical personnel from Washington. This was undertaken hurriedly, with the approval of the officers and councilors of the Society. This affair was conspicuous by the absence of members of this Society, and the failure of the majority to even answer their cards.

On March 8, 1947, the Secretary presented to President Bird his resignation for cause, effective immediately and on April 1, 1947, Dr. John F. Hynes assumed the office.

Respectfully submitted,
C. L. Munson, *Secretary*

President Bird: Thank you, Doctor. Do you have any report from then on?

Secretary Hynes: I have nothing to add. Most of the work has been routine business and correspondence. Dr. Munson has continued the very arduous task of trying to reach some sort of agreement with the Veterans Administration, for which I am extremely thankful.

The only other business comes under the heading of Scientific Committee, I believe, that I have to report on later.

President Bird: Next is the report of the Treasurer.

Secretary Hynes: The Treasurer's report is fairly long and elaborate, and will, of course, be audited. I might read the totals and any details thereof that you may want to have.

. . . Secretary Hynes then read the totals as contained in the report of the Treasurer, as follows:

Report of the Treasurer

September 23, 1947

General Fund

RECEIPTS

1946			
Sept. 20	1946 Balance on Hand		$1,318.08
Oct. 1	New Castle County Medical Society	$ 6.00	
Oct. 1	New Castle County Medical Society	148.00	
Oct. 7	Contribution Upjohn Co.	15.00	
Oct. 10	State Medical Society Meeting Registration Fee	500.00	
Nov. 22	Contribution Charles Lenty & Sons	25.00	
Nov. 26	Contribution Mead Johnson & Co.	25.00	
Nov. 27	Contribution Nestles Milk Products	50.00	
Dec. 2	State Medical Society Meeting Registration Fees	80.00	
Dec. 16	Sussex County Medical Society—four members	24.00	
1947			
Jan. 16	Farmers Bank Dividend	35.00	
Jan. 16	Farmers Bank Dividend	17.50	
Feb. 20	Kent County Medical Society—Twenty-two members	220.00	
Mar. 25	Washington Nurse's Memorial Fund Dinner	345.00	
April 4	Sussex County Medical Society—Thirty-seven members	370.00	
June 11	Kent County Medical Society—Three members	30.00	
Sept. 18	New Castle County Medical Society	2,022.00	
Sept. 18	Farmers Bank of the State of Delaware	35.00	
Sept. 18	Farmers Bank of the State of Delaware	17.50	
		$3,965.00	3,965.00
			$5,283.08

EXPENDITURES

1946		
Sept. 25	The Cedar Tree Press	6.00
Oct. 9	Middle Atlantic State Regional Conference	150.00
Oct. 15	Dinner Bell Inn	123.75
Oct. 15	Hotel Richardson	343.20
Oct. 15	Star Publishing Co.	50.00
Oct. 15	The Sommer Badge Co.	37.63
1947		
Jan. 9	C. L. Munson, M. D., House of Delegates	37.85
Jan. 17	J. D. Niles, M. D., Legislative Committee	500.00
Mar. 26	C. L. Munson, M. D., Secretary, telephone and stamps	73.75
Feb. 26	The Letter Shop	16.51

Feb. 26	The Letter Shop	18.67	
Feb. 26	Delaware State Medical Journal	13.70	
Feb. 26	Horne & Shell Inc.	123.33	
Mar. 7	Hotel Du Pont, Dinner for Nurse's Memorial	474.50	
Mar. 7	George Madden, Music for Nurse's Memorial	35.00	
Mar. 7	G. C. Boyd, Flowers for Nurse's Memorial	13.00	
April 5	Tyson's Transfer	3.09	
June 5	George J. Boines, M. D., ext. cord	5.50	
July 1	Dr. James Beebe, House of Delegates Meeting 12/1/46	75.20	
July 1	Dr. J. D. Niles, Middle Atlantic State Reg. Conf.	9.70	
July 1	Dr. John Spies, Middle Atlantic State Reg. Conf.	11.20	
July 1	Dr. John Hynes	10.20	
July 1	Dr. John Hynes, stamps	3.00	
Sept. 18	Del. State Med. Jour. —$2.00 per month	588.00	
		$2,722.78	2,722.78

Balance in Checking Account—September 23, 1947	$2,560.30
3 $1,000.00 Series F War Bonds (May 1936)	2,237.00
7 Shares Farmers Bank of the State of Delaware, Value at $430.00	3,010.00

DEFENSE FUND

Balance October 7, 1946	$3,591.65	
Interest Dec. 31, 1946	89.78	
	$3,681.43	$3,681.43

Respectfully submitted,
W. W. LATTOMUS, *Treasurer*

PRESIDENT BIRD: That is submitted by Dr. W. W. Lattomus.

You have heard the report, Gentlemen. Are there any comments or discussion? What is your pleasure?

DR. TARUMIANZ: I move that it be accepted.

DR. NILES: I second the motion.

PRESIDENT BIRD: Is there any discussion?

MEMBER: Shouldn't it be audited first?

PRESIDENT BIRD: We will have it audited. We are now discussing the report. All in favor of the motion made to accept the report, subject to audit, say, "aye;" opposed, "no." The "ayes" have it.

The auditors, under the By-Laws, are the Councilors. Will Dr. Niles and Dr. Prickett go over the records?

DR. TARUMIANZ: Mr. President, a couple of years ago the Society decided that the books should be audited by a regular accountant or auditor. That naturally at that time applied to the Medical Journal as well as to the Treasurer's report.

I move that the Society authorize the Treasurer to employ such an accountant to audit the books.

PRESIDENT BIRD: Do I hear it seconded?

. . . The motion was duly seconded . . .

PRESIDENT BIRD: Are there any comments? Are you ready for the question on the motion? All in favor signify by saying, "aye;" all opposed, "no." The report will be accepted, but it will have to be audited by a professional CPA.

Next, Committee Reports. First is the Committee on Scientific Work, Dr. Hynes, chairman.

Report of the Committee on Scientific Work

SECRETARY HYNES: The committee's work consists of the Scientific Program for the meeting, which you have all received. I think there is no need to go into that in detail.

PRESIDENT BIRD: Thank you, Doctor.

Committee on Public Policy and Legislation, Dr. Niles, chairman.

DR. NILES: I wish to submit the report of the Legislative Committee to date. We passed two bills, the Premarital Bill and the Cancer Bill. I might say that we had some trouble in our Premarital Bill. The chiropractors wanted to put a rider on that bill, allowing them to ride is as physicians. We finally defeated this.

Our Cancer Bill was presented, and we asked for $50,000, the Governor asked us to cut it down to $25,000. He had been so very cooperative that I deemed it sensible to acquiesce to his wishes and did so, although I must compliment Dr. Mayerberg who went to the committee and talked them into $50,000. We would have gotten it, but the Governor asked me to shave that down to $25,000 because of other expenditures of the state.

That is all I have to report, but I do want to say that the other men on this committee, Dr. Bruce Barnes and Dr. William Marshall Jr., have been right on the job every day all during the session. Dr. Chipman was the Speaker of the House, and he did his part.

Thank you.

PRESIDENT BIRD: Thank you, Dr. Niles.

What will you do with that report, gentlemen?

DR. TARUMIANZ: I move to accept the report.

PRESIDENT BIRD: You have heard the motion. Do I hear a second?

. . . The motion was duly seconded . . .

PRESIDENT BIRD: All those in favor say, "aye;" those opposed, "no." The "ayes" have it.

Next is the report of the Committee on Publication.

. . . President Bird then presented Part I or the report of the Editor and Dr. Tarumianz presented Part II or the report of the Managing Editor, as follows:

Report of the Committee on Publication

As heretofore, we transmit the report of the Committee in two parts: (1) that of the Editor; and (2) that of the Managing Editor.

Report of the Editor

We are nearing the end of Volume 19 of the New Series. The amount of material published is about equal to that of Volume 18, which was the largest in the history of The Journal. Through the excellent cooperation of the hospitals and of other contributors, together with the papers from our Annual Session we generally have a small surplus of materials on hand—a healthy condition which we hope will continue. The scientific value of the material contributed by our own profession in Delaware is definitely improving—another healthy condition which we hope will continue.

Our printers, The Star Publishing Company, again deserve a most kind word for their continued courtesies and efficiency, and to their entire staff must go again our thanks. It was not their fault that the price of The Journal had to be increased with the August, 1947, issue to fifty cents per single copy and to four dollars per year, an action that perhops should have been taken two or three years ago.

To all our members, whose continued cooperation sustains us, we offer our grateful thanks once more.

Respectfully submitted,
W. EDWIN BIRD, *Editor*

Report of the Managing Editor

August 1, 1946 to August 1, 1947

A. CHECKING ACCOUNT

Checking Account, Wilmington Trust Company, August 1, 1946		$ 572.87
Receipts		
Advertisements	$6,668.53	
Bonus on ads from A. M. A.	1,240.93	
Subscriptions		
Med. Soc. Members, Present Year	588.00	
Others	52.54	
Single Copy Sales	5.75	
Halftones	312.71	
Interest on War Bonds (These Bonds in the amount of $3,502.38 were purchased. Dec. 10, 1942)	87.50	
Total Receipts		$8,955.96
Disbursements		
Printing & Mailing Journal	$5,010.73	
Postage	1.16	
Notary Fees	.25	
Copyrighting Journal	24.00	
Bonding Stenographer	16.50	
Stationery & Supplies	73.60	
Editor's Salary	1,500.00	
Salary Stenographer	265.00	
Telephone and Telegraph	.75	
Bound Copy of Journal	12.00	
Total Disbursements	$6,903.99	
Surplus		$2,051.97
Balance in Checking Account, August 1, 1947		$2,624.84

B. SAVINGS ACCOUNT

Savings Account Wilmington Trust Co., August 1, 1946		$1,559.27
Receipts		
Interest on Savings Account	$15.00	
Total Receipts	$15.00	
Balance, August 1, 1947		$1,574.27

C. WAR BONDS

U. S. War Bonds	$3,502.38
Purchased December 10, 1942	
Balance, August 1, 1947	$3,502.38

SUMMARY

Savings Account Balance, August 1, 1947	$1,574.27
Checking Account, August 1, 1947	2,624.84
U. S. War Bonds, August 1, 1947	3,502.38
Grand Total (Accounts A, B & C)	$7,701.49

Respectfully submitted,
M. A. TARUMIANZ, *Managing Editor*

ACCOUNTS RECEIVABLE

Advertising Bills Due:	
Geo. C. Boyd, June issue	$3.00
Darlington Sanitarium, July issue	7.50
Star Publishing Co., July issue	5.00
Geo. C. Boyd, July issue	3.00
Clover Dairy, July issue	10.80
Fraim's Dairies, May issue	3.00
Fraim's Dairies, June issue	3.00
Fraim's Dairies, July issue	3.00
Total Accounts Receivable	$38.30

PRESIDENT BIRD: You have heard the report of the committee. What is your pleasure?

DR. NILES: I move it be accepted.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: All those in favor say, "aye;" opposed, "no." The "ayes" have it.

Report of the Committee on Medical Education, Dr. O. A. James.

. . . Secretary Hynes then read the report, as follows:

Report of the Committee on Medical Education

In the supplementary report of the Council on Medical Education and Hospitals to the House of Delegates of the American Medical Association in Atlantic City, June 9th, 1947, it was stated that considerable thought had been given to devise ways of upholding the prestige of general practitioners so that they may be encouraged to provide the citizens of our country with the kind of medical care which they are peculiarly qualified to furnish and for which there promises to be a continued need. As the patient is first seen by the general practitioner, it is very important that their knowledge be accurate and up to date.

In our state the Committee feels that the problem has been taken care of very nicely with the regular scientific meetings of the county societies, and with the staff meetings of the hospitals. Practically every physician has access to a hospital, generally has courtesy privileges. We would like to urge every physician to take advantage of these meetings, and also to encourage every hospital to continue having interesting scientific programs. The hospitals will find that they will be helping themselves in many ways, as well as the local physician, by encouraging 100% attendance of the courtesy staff.

O. A. JAMES, *Chairman*

PRESIDENT BIRD: You have heard the report of the committee, gentlemen. What is your wish?

DR. NILES: I move the adoption.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: All those in favor of the motion say, "aye;" opposed, "no." The "ayes" have it.

Committee on Necrology, Dr. Oliver V. James.

. . . Dr. James read an obituary of Dr. Everett Reynolds, of New Castle, as follows:

Report of the Committee on Necrology

Everett Reynolds, M. D., a native of Syracuse, New York, died in the Memorial Hospital, Wilmington, August 11, 1947, at the age of 47 years.

Dr. Reynolds was graduated from Hahneman Medical College in 1928, and in 1929 came to New Castle as an associate of the late Dr. Julius Dodd. Later he served on the State Board of Health in Sussex County, but afterward returned to New Castle and began general practice.

Dr. Reynolds had served as city physician, was a member of the staff of the Memorial Hospital, and belonged to the Homeopathic Medical Society, the New Castle County Medical Society, the Medical Society of Delaware, and the American Medical Association.

On behalf of the Medical Society of Delaware, we extend our sympathy to the family of Dr. Everett Reynolds.

PRESIDENT BIRD: Gentlemen, you have heard the report of the Committee on Necrology. Following the usual custom the Society will rise in honor of the deceased member for one minute.

. . . The members arose and stood in silence . . .

PRESIDENT BIRD: The next item is the report of the Women's Auxiliary.

SECRETARY HYNES: I have here two reports from the Women's Auxiliary, one from the chairman of the Advisory Committee, Dr. Ira Burns, and —

PRESIDENT BIRD: We will have first the report of the Auxiliary proper, Mrs. McElfatrick's report.

. . . Secretary Hynes then presented the report of the Women's Auxiliary, as follows:

Report of the Women's Auxiliary

The Women's Auxiliary to the Medical Society of Delaware extends greetings to the Medical Society of Delaware and to the President, Dr. W. Edwin Bird.

Eighteen years ago the Auxiliary was organized.

We do not measure the years, but rather the growth and progress during those years.

This year we have stressed membership, our slogan: "Every doctor's wife a member of the Auxiliary." This year we have 111 in good standing compared to 83 last year. Mrs. C. Leith Munson, Chairman of Membership, has made wonderful progress: her aim is to contact and interest each wife of a physician who has just become a member of one of the county medical societies.

We also have stressed interesting programs and public relations. We aim to have a speaker on some health subject at each of our future meetings. Our efficient program chairman, Mrs. Douglas M. Gay, and her committee have been working diligently to secure interesting speakers. At the February meeting Dr. A. Parker Hitchens gave us an interesting resume of the health and sanitation problems of the city of Wilmington.

The National Auxiliary advocates that we promote Hygeia. Our Chairman, Mrs. Howard Stayton, has done an excellent job, securing 18 subscriptions in a short time. We have donated a subscription to Hygeia to several of our state institutions.

We have made annual contributions to the Red Cross, the United Fund of Wilmington, and to other charitable organizations.

The women of New Castle County meet one night a month to sew baby garments for the Visiting Nurses Association.

At an Executive Board meeting we decided to have a Ways and Means Committee in order to raise some money toward a Benevolent Fund and maybe establish a fund to further the education of a physician's heir. We feel we could create a greater interest among our members and gain new members if we had a definite goal. Mrs. Joseph Davolos has accepted the chairmanship. The Advisory Board has been asked to approve this movement.

Last December, I, as President, attended a Conference of National Officers and State Presidents held in Chicago. There it was emphasized that each county medical society approve the movement of organizing an auxiliary in that county. There are 44 states organized and all except 3 states have county organizations. Delaware is organized only as a state unit. At this time I urge each county medical society of Delaware to approve the organization of a county auxiliary.

In April I attended the Annual Meeting of the Women's Auxiliary to the Medical Society of New Jersey held in Atlantic City, N. J. Their meetings were an inspiration to me.

I attended the meetings of the Women's Auxiliary to the A. M. A., at Haddon Hall, Atlantic City, N. J., June 9-13, 1947. This convention was the largest in its history, the meetings were educational, and it was stressed that every doctor's wife be well informed on medical subjects and legislation pertaining to the profession.

During the 18 years of its history the Women's Auxiliary to the Medical Society of Delaware has aimed to lay a sound foundation to enable it to face the problems and responsibilities that may arise. The Auxiliary aims to be of service to and pledges its loyalty and devotion to the Medical Society of Delaware, and shall always uphold the high ideals of the profession.

Respectfully submitted,
MRS. GEORGE C. MCELFATRICK, *President*

PRESIDENT BIRD: You have heard the report from the Women's Auxiliary. What is your pleasure?

DR. TARUMIAZ: I move its adoption.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: All in favor say, "aye;" all opposed, "no." The "ayes" have it.

Next is the report of the Special Committee of the Women's Auxiliary.

Report of the Advisory Committee, Women's Auxiliary

Your Auxiliary has been actively engaged in sewing for indigent children, as usual, during the past year, and deserves the Society's warmest thanks.

The Auxiliary has requested the approval of this Committee that it be permitted to extend its activities beyond those engaged in for a number of years. It has requested that some service, probably in the form of some scholarship, related to the Medical Society, be authorized.

Your Committee approves this request, and asks the Society to concur.

Respectively submitted,
IRA BURNS, *Chairman*

PRESIDENT BIRD: The request is for what?

SECRETARY HYNES: They requested that some service probably in the form of some scholarship related to the Medical Society be approved.

PRESIDENT BIRD: For them to do that? They ask that we authorize them to do what?

Next is the report of the Committee on Cancer.

SECRETARY HYNES: Dr. Howard of the Committee on Cancer has asked me to present his report.

. . . Secretary Hynes then presented the report as follows:

Report of the Committee on Cancer

The Committee on Cancer of the Medical Society of Delaware met on February 2, 1947, in Dover, Delaware, with the State Board of Health representatives, Drs. Cameron and Spies, to consider a cancer control program proposed by the State Board of Health for the coming two years and was attended by Dr. John Hynes, Dr. Douglas M. Gay, Dr. Ottaker Pollak, Dr. W. C. Pritchard, Dr. O. A. James and Dr. John Howard, Chairman.

The Committee acting as an advisory representative of the Medical Society voted to approve 'the act appropriating money to the State Board of Health for cancer control" with the recommendation of the following objectives:

1. The establishment of a central registry directed toward accurate recording of cancer morbidity and mortality and statistical research.
2. The assistance in the establishment of diagnostic and investigative clinics where needed.
3. To consider the support of existing facilities for the treatment of malignant disease or the establishment of additional facilities.

As the proposed bill stated that moneys appropriated were to be used for the detection of cancer, for research in cancer, and for other purposes related to cancer prevention and control; the Committee further advised that while statistical research was most necessary, that the initial scope of this cancer bill was already sufficiently broad and that it was not advisable to include scientific research in the program at this time.

This bill known as Senate Bill #164 was signed on April 9, 1947, and on July 10, 1947, the eleven member Advisory Committee for Cancer of the Delaware State Board of Health was activated as required in the bill. We are advised that progress is being made toward the establishment of the proposed central registry.

On October 5, 1947, the Committee met in Wilmington to consider the proposed program of cancer detection to be undertaken by the Delaware Division of the American Cancer Society and the American Cancer Society and was attended by Dr.

John Hynes, Dr. Douglas Gay, Dr. John Howard and by proxy Dr. Ottaker Pollak, Dr. O. A. James and Dr. A. H. Williams. The program, of which copies had been distributed to all Delaware physicians, proposes a brief examination twice a year of the breast, rectum and pelvic organs of every woman over 40 years of age in Delaware, at detection centers financed by the Cancer Society or by the family physician if individually desired.

The Committee in its advisory capacity feel that the purpose of such a project is sincere and can foresee no interference with established patient-physician relations, and no ethical reason why it should not be approved by the Society. In the Statewide development of such a program the Committee foresee an insufficient number of physicians to complete the survey. Such a practice must of necessity be aproved by the component County Medical Societies under whom the program must function.

The Committee therefore proposes that the Medical Society of Delaware approve in principle the cancer study proposed by the Delaware Division of the American Cancer Society and recommend to the County Societies and all physicians that they actively join in executing such a worthwhile survey.

John W. Howard, *Chairman*

President Bird: You have heard the report, gentlemen. What is your desire.

Dr. Tarumianz: I move it be approved as read.

. . . The motion was duly seconded . . .

President Bird: All in favor say, "aye;" all opposed, "no." The "ayes" have it.

I suppose as a matter of parliamentary technique we should come back to these reports. When you adopt these reports in this rather quick fashion you are adopting at the same time the recommendations. If you wish to do that all right, but if there is any question about any of the recommendations in these reports, we will approve the report subject to the matter being reviewed under new business.

The Committee on Social Hygiene.

Secretary Hynes: Who is chairman of that, Dr. Bird?

President Bird: Stanley Worden, J. R. Beck and L. M. Dobson. No report.

The Committee on Tuberculosis.

. . . Dr. Beatty then presented his report as follows:

Report of the Committee on Tuberculosis

Your Committee this year was asked to submit a brief report on the present tuberculosis activities and omit the statistical data.

The past year 1946, there was an increase in the death rate, in Delaware being 44.1 in comparison to 1945 with a death rate of 35.6. Also to date this year, the morbidity report is higher than at this date in 1946.

The State Board of Health continues to hold its regular scheduled chest clinics in Wilmington, Newark, Middletown, Dover, Milford, Seaford, and Laurel. All of these clinics are equipped with a fluoroscope except Newark and Middletown. Doubtful cases seen in these clinics are referred to the local hospitals or the Brandywine Sanatorium for x-ray studies.

With monies received by the State Board of Health from the Federal government for tuberculosis control, the Health Department has purchased a 70 MM Mobile X-ray Unit to x-ray groups throughout the state. The groups who have received this service are all high schools, companies, and organizations by request. It is planned to x-ray every high school biannually.

The Delaware Anti-tuberculosis Society is installing an x-ray unit in their offices at 1308 Delaware Avenue to x-ray all food handlers, cases referred from the chest clinic, and those referred by physicians who state in writing the case is indigent and unable to pay for an x-ray study.

The same Society has also financed a miniature x-ray installation in the Memorial Hospital for chest films of all in- and out-patient admissions, as well as personnel. The Society plans to install similar equipment in other hospitals in the order of their request, one installation a year.

The Memorial Hospital has been holding, twice monthly, chest conferences which are open to all physicians who care to attend.

The state sanatoria are running to capacity, with occasionally a few on the waiting list at various seasons of the year. There has been a definite increase among the older age group, particularly white males, who apply for admission. During the past year, a tuberculosis register has been installed by the State Board of Health in Wilmington and each county unit, with a central register in the Dover offices, as a further aid in tuberculosis control by listing all known cases and their immediate contacts.

The Delaware State Board of Vocational Rehabilitation with the aid of the Delaware Anti-tuberculosis Society have been conducting a rehabilitation program for tuberculosis cases since 1942. During this time, 163 cases discharged from the sanatoria and 102 cases under sanatoria treatment have been interviewed, 70 have been found suitable occupations, and 8 are still in training.

Respectfully submitted,
G. A. Beatty, *Chairman*

President Bird: Thank you, sir. You have heard the report, gentlemen.

Member: Just a slight correction. There were no TB clinics held at Seaford.

President Bird: Will you please correct the record? With that correction in mind, what is your pleasure?

Dr. Tarumianz: I move we accept it.

Dr. Niles: I second the motion.

President Bird: All in favor say, "aye;" all opposed, "no." It is so ordered.

Committee on Maternal and Infant Mortality, Dr. Catherine Gay.

Secretary Hynes: I have no report.

President Bird: Committee on Mental Health, Dr. J. W. Ballard, Dr. Mercer and Dr. V. A. Hudson. No report?

Secretary Hynes: None here.

President Bird: Committee on Criminologic Institutes? Dr. Elliott of Laurel, do you have a report?

Secretary Hynes: I have no report.

President Bird: Committee on Medical Economics and Public Relations, Dr. McDaniel.

Report of the Committee on Medical Economics and Public Relations

Dr. McDaniel: There were no reasons for the transaction of any business by this committee, therefore, there is no report.

President Bird: It is a report. We will accept it under motion. Do I hear such a motion to accept the verbal report?

. . . The motion was duly made and seconded . . .

President Bird: All in favor say, "aye;" all opposed, "no." The "Ayes" have that one, too.

Next is the Committee on Revision of By-Laws.

. . . Secretary Hynes then presented the report as follows:

Report of the Committee on Revision of By-Laws

Your Committee has on hand a proposed set of new By-Laws, drafted by the Bureau of Legal Medicine and Legislation of the A. M. A. According to our present By-Laws this document must be presented (not read) at a General Meeting at this Annual Session, then sent to each county society at least two months before the 1948 Session, and finally read and acted upon by the 1948 House of Delegates.

Pursuant to these requirements, the new By-Laws will be "presented" to the General Meeting tomorrow morning, immediately following the Report of the House of Delegates. They will then follow the course stated above.

Respectfully submitted,
W. Edwin Bird, *Chairman*

President Bird: You have heard the report. What is your desire?

. . . The motion was duly made and seconded to accept the report . . .

President Bird: All those in favor say, "aye;" all opposed, "no." It is so ordered.

Committee on Vocational Rehabilitation, Dr. Jones, Chairman.

Dr. Jones: I have a report written by Dr. Pennington who is the medical director for the State Board for Vocational Education, Rehabilitation Division.

. . . Dr. Jones then presented the report, as follows:

Report of the Committee on Vocational Rehabilitation

The following figures should be very interesting to the medical profession of Delaware.

132 medical men participated in the treatment of 1,254 individuals, of which 342 were completely rehabilitated, transforming them from tax liabilities to taxpayers. Every hospital in the state has participated in this program.

The average cost per client was about $400.00, which is slightly higher than previous years, probably due to the increase in hospitalization and artificial appliance cost.

$18,127.49 was paid to the medical profession in the state of Delaware. $15,727.11 was paid out for other phases of our physical restoration program. This included dental work, artificial limbs, braces, eye glasses, and artificial eyes. $12,461.29 was paid to the hospitals for hospitalization. $950.00 for convalescent home care; and $1,834.00 for physio and occupational therapy. The grand total of monies spent in the physical restoration department alone is $46,315.89.

Respectfully submitted,
Martin B. Pennington
Fremont Loeffel

President Bird: You have heard the reading of the report, gentlemen. What is your pleasure?

Dr. Barnes: I move it be accepted.

President Bird: Do I hear a second?

. . . The motion was duly seconded . . .

President Bird: All in favor say, "aye;" all opposed, "no." It is so ordered.

Committee on Postwar Plans.

Dr. Tarumianz: No report.

President Bird: Committee on Budget.

. . . Dr. Tarumianz then presented the report, as follows:

Report of the Committee on Budget

The Medical Society of Delaware at its Annual Meeting in October, 1945, approved the appointment of the Budget Committee, and at the same time the Society went on record favoring the establishment of an office of Executive Secretary.

In October, 1946, the Society instructed the Committee to prepare a budget for the year ending December 31, 1948. In the opinion of the Budget Committee, our Society is not large enough to have an office of a full time Executive Secretary, therefore the Committee favors the appointment of an Executive Secretary on a part time basis. It is the opinion of the Committee that the candidate for such a position should be a member of the Society in good standing and well versed in the various aspects (scientific and business matters) of the Society.

The salary of such a part time assistant should not exceed $1200 per annum and he may have part time stenographic assistance, the expense of which should not exceed $300 per annum.

In the opinion of the Committee, the Executive Secretary will take care of all the administrative details of the Association, working with the regular Secretary of the Society and be under the control of the Council. The Executive Secretary will make frequent personal visits to the county societies to help to maintain a high standard of activity. The Executive Secretary will attend the meetings of the various committees (standing as well as special committees). He will assist the Secretary in keeping a complete record of every physician. These records will be up to date and the reports of these records will be sent monthly to the American Medical Association. He will keep a brief history concerning each individual member of the Society, the time he was licensed to practice medicine in the state, the school he attended, the date of his graduation and his present location. He will assist the Legislative Committee during legislative sessions. He will assist the Program Committee to an extent that the Society will have a minimum of 2½ days of scientific meetings, at which time outstanding speakers will present their papers.

It would be the duty of the Executive Secretary to follow up all Resolutions passed by the Society at annual meetings.

In view of the above facts, the Committee is presenting the following budget for the year ending December 31, 1948.

Budget for 1948

Expected Receipts

1. Annual dues from 280 members at $10.00	$2,800.00	
2. Annual dues for Banquet Dinner	900.00	
3. Exhibits at the Annual Meeting	150.00	
4. Dividends (bank stock)	100.00	
Total receipts	$3,950.00	$3,950.00

Disbursements

Salaries

1. Executive Secretary, part time	$1,200.00	
2. Stenographer, part time	300.00	
Total		$1,500.00

Office

1. Stationery	$ 100.00
2. Postage	25.00
3. Fee for Special Stenographer for Annual Meeting	200.00
4. Programs	50.00
5. Badges	50.00
6. Miscellaneous	50.00
Total	$ 475.00

Travel

1. Delegate to A. M. A. (for two sessions)	$ 200.00
2. Miscellaneous for attending conferences, visiting county Societies, expenses for speakers, etc.	150.00
Total	$ 350.00

Operation

1. Subscriptions to journal 280 members (at $2.00)	$ 560.00
2. Annual dinner	600.00
3. Annual luncheon	200.00
4. Meals for Delegates	50.00
5. Miscellaneous	100.00
	$1,510.00

Total of disbursements $3,835.00

As you can see from the above budget, at the end of the fiscal year 1948 we will have a balance of $115.00.

For the fiscal year 1949 we will need an additional sum of $500.00 for the Legislative Committee.

Respectfully submitted,
M. A. Tarumianz, *Chairman*

President Bird: You heard the report read. What is your pleasure?

Dr. Barnes: I move that it be approved.

President Bird: Do I hear a second?

. . . The motion was duly seconded . . .

President Bird: It has been moved and seconded that the Budget Committee's report be approved. All in favor say, "aye;" all opposed, "no." It is so ordered. We will come to the specific points, Dr. Tarumianz, under new business.

Report of the Committee on Cheff Memorial.

. . . Secretary Hynes presented the report as follows:

Report of the Committee on Cheff Memorial

We wish to report that to date a total of $4,820.00 has been collected from 78 members of the Medical Society of Delaware.

We suggest that the House of Delegates decide the type of policy to be purchased with this money and a committee be appointed to arrange the purchase.

W. W. Lattomus, *Chairman*

President Bird: You heard the report read. What is your pleasure?

. . . The motion to accept was duly made and seconded . . .

President Bird: All in favor say, "aye;" all opposed, "no."

Dr. Flinn: Will that come up under new business?

President Bird: Yes. The motion is carried.

State Health and Welfare Center report.

Dr. Jones: No report.

President Bird: Report of the Delegate to the A. M. A., Dr. Beebe.

. . . Dr. Beebe then presented his report as follows:

Report of Delegate to A. M. A.

The House convened in the Assembly Room of the A. M. A., Chicago, and was called to order at 10:15, Monday, December 9, 1946, by the Speaker, Dr. R. W. Fouts, Omaha, with 133 delegates registered. The House voted to seat the delegate from the Section on the General Practice of Medicine.

The report of Board of Trustees was presented and referred to the Reference Committee. Following are some of the highlights:

Directory Department: The principal reason for the delay in the publication of a new American Medical Directory is the increase of work due to the return of 55,000 medical officers who have terminated their service with the government, shortage of clerical help, lack of labor in the printing department, and the scarcity of paper.

The Therapeutic Trials Committee: The possibility of holding conferences of research workers in certain pharmaceutical products is being explored. Requests for clinical investigations of several such products have already been received and acted on by the Committee, and steps have been taken to coordinate the work of the Committee with other agencies interested in research, such as the National Research Council and the U. S. Public Health Service.

The National Conference Committee on Workmen's Compensation has been active during recent months, dealing with reform in medical testimony, disability evaluation, rehabilitation, elevation of standards of medical care for the industrially disabled and greater participation in workmen's compensation administration by medically trained people, also the problem of simplification and uniformity of report forms and the adoption of a standard nomenclature and uniform statistical methods.

Bureau of Legal Medicine and Legislation: The Hospital Survey and Construction Act was passed. An increased appropriation was made available to the Public Health Service to assist states, counties, health districts and other political subdivisions in establishing and maintaining adequate public health service, the sum of $2,500,000 earmarked for a cancer program. Additional funds were made available for grants to states for maternal and child health services and for research relating to psychiatric disorders and to aid in the development of more effective methods of prevention, diagnosis and treatment of such disorders.

Summary surveys of state laws of medical interest will be made and published in the Journal so that trends in medical legislation may be followed and so that each state medical association will be advised as to the types of medical laws enacted in other states.

The Bureau of Investigation reported that the number of inquiries, particularly from college and high school students, recently received in the Bureau about "patent" medicines and numerous other forms of quackery shows a substantial increase.

The Board of Trustees also reported that the Department of State of the Federal Government several months ago requested the A. M. A. to suggest the name of an outstanding medical investigator to represent the United States on an interallied commission to study the medical experiments on human beings carried on by the Nazi government during the war. Dr. A. C. Ivy of Chicago, was selected, went to Europe and on his return submitted a report to the government and a copy to the Board of Trustees, which was in turn submitted to the Judicial Council. The Judicial Council reported that the experiments described in Dr. Ivy's report are absolutely opposed to the Principles of Medical Ethics of the A. M. A., and are to be condemned.

At the session held in San Francisco in July, 1946, the Board of Trustees presented to the House of Delegates a digest of a considerable portion of the Rich Report on the public relations of the A. M. A., together with a report from the Board of Trustees as to certain actions already taken by the Board. The complete report was later made available to the House of Delegates, but is still held to be confidential since it concerns the Association's activities only. This report is discussed in detail in the A. M. A., of December 28, 1946.

It was taken for granted that when the Philippines became an independent nation on July 4, 1946, the Philippine Medical Association automatically ceased to be a constituent of this Association. This matter was reported to the House of Delegates in order that official action be taken to signify that the Philippine Medical Association is no longer a constituent unit of the A. M. A.

The Judicial Council reported that letters were received from roentgenologists and clinical pathologist asking for advice as to their rights in giving reports on interpretations of films or the results of clinical tests to the doctor who replaces another in charge of the case. The Council feels that at the request of the patient, preferably in writing, the reports should be immediately sent to the doctor then in charge of the patient. The question whether the contents of the report are to be given to the patient rests with the decision of the doctors who know all the circumstances involved in the situation.

The Council on Medical Education and Hospitals reported that the students in attendance at recognized medical schools will probably reveal a moderate decrease. There are more women than formerly and there are from 50 to 60 per cent veterans in the freshman classes. All medical schools have abandoned compulsory acceleration, altho a few schools permit acceleration on a voluntary basis for selected students.

New Business: A resolution was presented to bring about closer cooperation between the medical and dental professions, a resolution that the requirements for approval of hospitals shall be so defined that there shall be adequate protection of the rights of all doctors and their patients in obtaining hospitalization to the end that general practitioners as well as specialists shall have access to and use of hospital facilities, that the criterion of whether a doctor may be a member of a staff or a head of a department shall be his actual ability as a doctor and not dependent on special society or board membership and that the American College of Surgeons be urged to conform to these general policies in their procedures in the standardization of hospitals; a resolution on sponsoring a national conference of officers of county medical societies; a resolution that a reasonable and uniform maximum figure for the remuneration of interns and residents be established, so that the monetary value of internships and residencies may not act as a deciding factor in the applicants for such training. Other resolutions are given in detail in A. M. A. of December 28, 1946.

The following supplementary report of the Council on Medical Service was presented: The American Cancer Society has established regulations for the control of information services, detection centers, service programs and diagnostic and treatment clinics. The American Cancer Society's control over any of these is only in the distribution of funds, with the exception of the information services. None of these agencies can be set up or operated without the approval of the local county medical societies. This control by the county medical society pertains not only to permission to set them up but to everything in regard to their operation, staffing and economic control. The only other agency which will have such a part in any of them is the American College of Surgeons, which will be requested to inspect the detection centers from a purely professional standpoint to determine whether or not they are doing a satisfactory professional job.

The report of Committee on Rural Medical Service describes proposals for meetings with organized farm groups and outlines a discussion of the following subjects: (1) bringing and holding well qualified physicians in rural communities; (2) hospitals, facilities and health centers; (3) voluntary prepayment plans; (4) nursing needs of rural communities; (5) health councils as agencies for promoting rural health, and (6) medical care for lower income groups. The report points out that in the Hill-Burton Bill priority is given to rural areas in greatest need, but since these communities usually have the least economic resources they cannot meet the two-thirds cost assessed to them in these projects. Each state will need to develop plans and to take action to meet this situation.

Reference Committee on Legislation and Public Relations reported also on the Resolution on Fellowship of Members of the Permanent Corps of the Veterans Administration. They recommend that the V. A. be given representation in the House of Delegates and that the House proceed to take such steps as are necessary to accomplish this, and that, as for admission to Fellowship, due to the fact that the Veterans Administration has been authorized to care for 15 million veterans, the members of the permanent medical corps should receive the same consideration as that given to medical officers of the Army, Navy and Public Health Service with the provision that Fellowship will continue only as long as they remain members of the permanent corps of the Veterans Administration.

The House convened in the Rose Room of the Hotel Traymore, Atlantic City and was called to order on Monday morning, June 9, 1947, at 10:30 a. m. by the Speaker, Dr. R. W. Fouts, Omaha, with 143 delegates registered.

The Speaker declared, after the vote, that Dr. Henry A. Christian, Boston, had been elected to receive the Distinguished Service Award of the A. M. A.

A supplementary report of the Judicial Council was made concerning a resolution providing for a revision of the principles of medical ethics, first written in 1803 and last modified in 1880. Modifications and additions have been written in the language of several different periods and the Council feels that this language should be rewritten so that it may be more easily interpreted. Suggestions were solicited.

A supplementary report of the Council on Medical Education and Hospitals was presented. It stated that considerable thought has been given to devise ways of upholding the prestige of general practitioners so that they may be encouraged to provide the citizens of our country with the kind of medical care which they are peculiarly qualified to furnish and for which there promises to be continued need.

Report and supplementary report of Committee on Rural Medical Service were presented. It was agreed that the formation of health councils should be undertaken on the state level and their development on the local level at the earliest possible moment.

A resolution on indoctrinating medical students with the philosophy and ethics of the profession was presented, which program should emphasize the relationship to and the responsibility of the doctor in meeting the social problems now confronting our profession.

On Tuesday morning, June 10th, the House was called to order at 9:20 a. m., with 173 delegates registered.

A resolution on group practice was presented, as follows: Resolved, that the delegates bring about provision by the American Medical Association for the establishment of a bureau of council on group practice. The functions of such bureau will be: To serve as a clearing house of information on group practice; to formulate professional, ethical and other principles governing the development of such group practice, and ultimately to provide for qualifications and recognition of groups engaged in group practice in the various parts of this country.

Resolution on Senate Bill 140, sponsored by Senators Fulbright and Taft, was presented. This bill would create a Department of Health, Education and Welfare. The American Medical Association has consistently advocated placing all health activities of the Federal government, except those of the Army, Navy and Veterans Administration, in a single agency concerned solely with health, and since S. 140 does not conform to this objective, it was recommended that the Association express its unalterable disapproval of the bill and that the constituent state associations be urged to take similar action.

Resolution was presented that the House of Delegates of the American Medical Association urge the President of the United States and the administrator of veterans' affairs to continue and augment the existing "hometown" program for medical care of veterans.

Resolution presented that the Section on Opthalmology of the American Medical Association declares that it is entirely within the definition of medical ethics for its members to engage in lectures, demonstration, the preparation of pamphlets and other measures suitable for the dissemination of information designed to prevent blindness, and directed to any nonmedical group.

Resolution on Nursing Shortage was presented, that the Board of Trustees of the American Medical Association be requested to take action in seeking liberalization of the interpretation of existing laws so as to permit the training of practical nurses in all hospitals now conducting training school for registered professional nurses and the establishment of training programs for practical nurses in approved hospitals not at present conducting a nurse training program of any sort.

Dr. George F. Lull read telegrams of greetings and good wishes on the 100th birthday of the American Medical Association from the President of the United States.

The fourth meeting took place on Thursday morning, June 12th, with 173 delegates registered.

The Reference Committee on Sections and Section work approved a resolution calling for the establishment of a Section on Diseases of the Chest.

The Reference Committee on Medical Education approved the Resolution on Nursing Shortage and recommended that the President appoint a committee of five to be known as the Committee on Nursing Problems.

The Reference Committee reported that the Board of Trustees has appointed a committee to serve as a means of liaison with the Veterans Administration in consideration of frequently developing problems of Veterans' medical care.

The Reference Committee on Miscellaneous Business recommended that Dr. James R. Miller's report "Planning for the Chronically Ill" be published widely, and suggests that copies of the report be forwarded to departments of health and welfare of the states of the Union.

The Reference Committee on General Medical Practice recommends the adoption of the Supplementary Report of Council on Medical Education and Hospitals Dealing with Upholding Prestige of General Practitioners.

At the last meeting on Thursday afternoon, June 12th, Dr. R. L. Sensenich was elected to the office of President-elect of the A. M. A., along with various other officers and affiliate fellows. Dr. Sensenich made a short address and the House adjourned at 4:30 p. m.

ADDENDA: A special report of the Trustees on communication from Dr. Olin West recommended that medal usually presented to retiring presidents be presented to Dr. West, who resigned after nine months' service on account of ill health.

Dr. Fouts called attention to changes recommended and adopted by the House of Delegates, namely, restriction of certain areas for the meeting of delegates and voting by ballot.

The names of former delegates deceased since last session were read, followed by a moment of silence.

In appointments of the Reference Committee your delegate was appointed on Rules and Order of Business.

President Bird: Thank you for you rreport. You have heard the report of the Delegate to the AMA. What is your pleasure, gentlemen?

Dr. Niles: I move the report be accepted.

. . . The motion was duly seconded . . .

President Bird: All in favor say, "aye;" all opposed, "no." The "ayes" have it.

The report of the Representative to Delaware Academy of Medicine, Dr. W. O. LaMotte.

Secretary Hynes: No report.

President Bird: That concludes the reports.

Is there any unfinished business, Mr. Secretary?

Secretary Hynes: I don't know whether this question of the Veterans Administration comes under unfinished business.

President Bird: We will take that up with these other reports under new business.

If you have nothing further under old business, we will go back to these reports and pick up the new items presented.

NEW BUSINESS

President

The first report is that of the President. He requested that he be authorized to name two committees at the request of the AMA: first, a Committee on Industrial Health; second, a Committee on Rural Health Service. What is your pleasure?

Secretary Hynes: Shouldn't those be taken up separately?

President Bird: Yes, we will take them separately. The first request is that the President be authorized to appoint a Committee on Industrial Health. Do I hear a motion to so authorize?

Dr. Beebe: I move that.

. . . The motion was duly seconded . . .

Dr. Flinn: What is it supposed to do?

President Bird: Investigate conditions in this state. The AMA has asked us to set it up for whatever they might have to do. Is there any other discussion?

All in favor say, "aye;" all opposed, "no." It is carried.

The other recommendation was that the President be authorized to appoint a Committee on Rural Health Service.

Dr. Niles: I move that, Mr. President.

. . . The motion was duly seconded . . .

President Bird: It has been moved and seconded the President be authorized to appoint a Committee on Rural Health Service. All in favor say, "aye;" all opposed, "no."

That disposes of the business on the President's report.

Secretary

Under the Secretary's report.

Dr. Munson will give you a report now on the VA business.

V. A Fee Schedule

Dr. Munson: Mr. President and Members of the House of Delegates: A year ago you asked me to complete and present to the Veterans Administration a schedule which would cover the fees of all medical procedures.

Now, the V. A. schedule is a 25-page proposition of single-spaced typing, as you see. It covers visits, house calls, laboratory procedures, x-ray, and all types of surgical procedures, physiotherapy, x-ray radiation therapy and so on.

The original schedule was worked on and I took as a basis the vocational rehabilitation schedule here, a schedule being put out by the National Foundation for Infantile Paralysis, and fee schedules for the states of Michigan and Kansas, for the V. A. and other federal bureaus. I finally took it to the V. A., but it bounced back immediately as being unsatisfactory—too high.

Incidentally, the laboratory x-ray part of this schedule was taken from the fee schedule which is set up in four hospitals in the city, and I thought that we could not afford to make any changes in that and make it more or less of a uniform schedule throughout the state as applied to the hospitals.

So they sent back another schedule along with a copy of the Pennsylvania schedule, and I worked it out and sent it back. I don't believe that they looked at it because it bounced right back again and they changed the form and would I please make another schedule which I did very grudgingly, and it bounced twice more.

Strangely, they seemed to pick out the schedules they had accepted, and any fee that might be just a little less than any fee they accepted was all right, mainly in the laboratory and x-ray, but they howl like the devil about any fee that might be a little bit higher. I worked on the schedule for the last time—the fifth time—and finally presented a schedule which gave a few points to the V. A. and took a few points for us—very comparable to the Pennsylvania schedule, a little higher in places and a little lower in places. And I now have a verbal okay from the V. A. that it is acceptable.

Tonight I present to you this agreement form which must be okayed by the House of Delegates and signed by the President and Secreatry for the State Society, and further signed by the V. A. Then these fee schedules have to be taken to Washington where they will be printed, and then distributed to the State Society and to all the members of the State Society.

There are fifteen points to this V. A. schedule or contract between the two parties.

The first one: The State Society will request that all members of the State Society participate in this schedule.

2. The State Society will submit lists of members who desire to provide service.

The service by the individual members of the State Society is purely on a voluntary basis.

Any one who may apply and make himself eligible to provide service under this schedule may have his name withdrawn at any time from the schedule if he applies in writing.

3. The State Society will assist in the establishing of specialists lists.

4. Lists are to be broken down by the V. A. and the State Society into county or district groups so that a veteran may choose a physician in his own particular region whom he might want to treat him.

5. Fees are paid according to fee schedule, and the prices must not be in excess of rates charged to patients other than veterans.

In the event of unusually involved cases and services not scheduled they will be subject to review and recommendation by the Medical Society of Delaware to the V. A. for determination of an appropriate fee.

Most of the fees are fairly good, I think, according to other fee schedules.

6. No physician may receive in one year more than $6000 unless he has previous approval by the Chief Medical Director of the V. A. and so on. I don't believe anybody will ever get that amount because you won't have time in a year to fill out all the blanks.

7. The next point, the V. A. will handle the administrative and clinical details of authorization and the maintenance of records, and they will arrange for the transportation of patients from their homes to the point of treatment.

Incidentally, on this business of reports, Dr. Jacques, who is the head of the Philadelphia Office of the Medical Department, says that any physician can handle twenty cases a week in his office and by taking about one-half to one hour a month can fill out all the blanks necessary. You need no comment on that.

8. The V. A. will furnish to any veteran on application a list of participating physicians in his community.

9. The V. A. will review the reports, will pay no fees for unacceptable reports or unauthorized cases.

10. The State Society is to establish one or more boards of physicians whose duties it will be first to review inadequate reports; second, to recommend disqualification of any participating physician against whom charges have been brought; third, to advise the V. A. on the workings on the program.

11. Service rendered must be rendered by licensed physicians who are citizens of the United States.

That point might be well to read: "It is agreed that services furnished under the agreement will be performed by licensed physicians. It is further agreed that physicians rendering services hereunder will be citizens of the United States, doctors of medicine duly licensed to practice medicine and surgery in the state of Delaware.

12. This agreement, if mutually satisfactory will be effective—from today if we pass it. The expiration of this agreement will be the 30th of June each year, and this agreement may be terminated by either party by giving 30 days' written notice to that effect.

13. This agreement if mutually satisfactory may be renewed indefinitely for a period of one year each, upon 60 days notice in writing.

14. No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise therefrom unless it be made with a corporation for its general benefit. That you may figure out to the best you wish.

15. The State Society agrees that in performing this agreement it will not discriminate against any employee or applicant for employment because of race, creed, color or national origin; and last, the Medical Society of Delaware does not propose to make any charge for any service rendered to the V. A. under this agreement. I assume that to mean that in making up this fee schedule and passing it so on and so forth we will not submit a bill for the time it has taken to do it and so on.

Now I would like the wishes of the House of Delegates on this fee schedule, and if possible would like to have these papers signed tonight because they are to go to Washington tomorrow for final approval by the V. A.

Dr. McDaniel: I move its adoption.

Dr. Niles: I second the motion.

PRESIDENT BIRD: Motion has been made that the V. A. fee schedule be accepted, which carries with it authority for the officers to sign a contract.

PRESIDENT BIRD: Is there any further comment or discussion? If not, all in favor say, "aye;" all opposed, "no." It is so ordered.

Woman's Auxiliary

Next is the report of the Woman's Auxiliary. They ask for permission to go into some medical service work.

SECRETARY HYNES: Scholarship.

PRESIDENT BIRD: I see no reason why we should object to those ladies trying to raise some money for scholarships or similar purposes. Do I hear a motion?

DR. JONES: I so move.

DR. NILES: I second the motion.

DR. BEEBE: Can they do that unless it is subject to the approval of the House of Delegates or somebody? Shouldn't that scholarship be subject to the approval of the House of Delegates?

DR. BARNES: As I gather, hey have been doing work for years. For instance, there they say, "scholarship or some such work," nothing very definite or even who is to get the scholarship. That hasn't been decided upon. The general idea is to do something other than what they have been doing for the medical profession.

PRESIDENT BIRD: Do you happen to know whether they are considering using that fund to amplify the Cheff Fund, for instance?

DR. BARNES: That is not the thing.

PRESIDENT BIRD: The Cheff Fund is not a scholarship per se. That is set up to be an educational fund, I believe. Do you happen to know if they are thinking along that line?

DR. BARNES: Yes, they have it in mind but nothing definite.

DR. TARUMIANZ: It is a scholarship for a medical education or a scholarship for some technical work such as laboratory technicians might get.

PRESIDENT BIRD: Read that portion of the report from the Woman's Auxiliary.

SECRETARY HYNES: The chairman's report was that the Auxiliary requested that some service, probably in the form of some scholarship related to the medical society, be authorized.

In Mrs. McElfatrick's report it says: "At an Executive Board Meeting we decided to have a Ways and Means Committee in order to raise some money toward a Benevolent Fund and maybe establish a fund to further the education of a physician's heir." That is as much as is specified.

DR. TARUMIANZ: That is clear.

PRESIDENT BIRD: Is there any further discussion on this report? Suppose we proceed then.

DR. FLINN: I don't see any point in such a suggestion unless the Woman's Auxiliary is looking for an excuse for its existence. I have opposed it for years, not that it makes any difference in that organization, and naturally I see no possible excuse for the Woman's Auxiliary in the first place, and I certainly would not like to go on record as approving such a nebulous sort of suggestion as this motion calls for.

DR. BARNES: I think they are as specific as they could possibly be or at least they want to be at this time. They don't want to mention any particular names because there may be some other considerations for scholarship or they may not even go into a scholarship, but that seems to be the primary thought they have now.

DR. TARUMIANZ: Mr. President, since we have an Auxiliary, it seems to me that there is no objection to approving this project in principle. We are not approving anything special except in principle. We have no reason to oppose any education in medicine or allied sciences.

PRESIDENT BIRD: How did the motion read originally?

DR. RENNIE: Since we do have a Woman's Auxiliary, do they require that we approve such a thing? As a Woman's Auxiliary don't they do what they want to? If they have a group of people who raise money, they can do anything they want with it, can't they?

PRESIDENT BIRD: I think as a matter of legal organization they may have that right, but I also believe that they have to operate under the charter or the general scheme of management of the National Auxiliary. They do pretty much as they please with their own funds, with the consent of an Advisory Committee from the AMA.

PRESIDENT BIRD: Is there any further discussion?

Let us proceed to vote on this then. All in favor say, "aye;" all opposed, "no." The "ayes" have it, and it is okayed in principle. That is the report of the Auxiliary.

Cancer

Next is the report of the Committee on Cancer and the question of approving in principle their program. Is there any discussion of that matter? Are you ready? Are you satisfied? Do you have enough information to vote?

DR. FORREST: I move we approve it in principle.

DR. NILES: I second the motion.

PRESIDENT BIRD: Is there any discussion? All in favor say, "aye;" all opposed, "no." It is so ordered.

Budget

The next report was the report of the Budget Committee. Does any one wish to discuss that report? There was a question or two that Dr. Tarumianz raised.

DR. MUNSON: May I have the floor again? The main objection I would put up to the report is the item of the Executive Secretary and the amount. I don't believe that, for the amount projected to pay for services of an Executive Secretary, he is going to do a good job of it.

Furthermore, I don't believe that the secretarial expenses or stenographic expenses, if you want to call them that, can be covered by $300 a year.

When I had to get somebody to come in at special times and write letters and reports and fill out blanks and so on for me, I used up the $300 which was allowed by the State Society and a little bit more in order to have some one work in the evening and get those reports out and try to keep up the Secretary's office.

My main objection, then, to the report would be that the amount of money set aside for such a thing is not adequate to do a reasonably decent job of it.

It has been suggested, and I think it is a very excellent suggestion, that as the work of the Society increases and as the New Castle County Society has a large bulk of work which is thrown on the shoulders of one man, and there must be a certain amount of work which the Academy of Medicine has, that perhaps one person could be secured to act as Executive Secretary for three organizations and make it a fulltime job and allow enough money for proper secretarial help, and let the expenses thereof be divided according to the amount of work which each one of the groups would throw on the shoulders of such a person and his secretary.

DR. FLINN: I approve of the recommendation certainly in principle. I will not pass upon amounts. Dr. Munson knows more about it than I do, but I just throw in for consideration the thought that it might be possible to use the Delaware Academy of Medicine as Dr. Munson intended and perhaps the Secretary's headquarters as far as stenographic help is concerned be located there. At least that might be investigated because that might work out to the good of both organizations and it might save this organization some money.

DR. TARUMIANZ: I fully agree with Dr. Munson that the amount allocated for various sections is not sufficient. However, the income is only $3950 and you certainly have to consider the income before you consider the disbursements. It is certainly a solid business matter. I feel that if we could combine the Journal activities with the Executive Secretary it can be done with the amount allocated to it.

Now, Mr. President, you will excuse me. I am going to be personal. At the present time the editor's salary is $1500 a year. It was the opinion of the committee that we might mention the name of the editor of THE JOURNAL to be part-time Executive Secretary. He has the qualifications to do the job and since he is already on a salary to some extent for the editorial work an additional $1200 will give him an opportunity to spend a few more hours every day, particularly during the period of the legislative sessions and meetings, to secretarial work.

In the past twenty years I have been managing editor of the JOURNAL and it hasn't cost anything to the State Society outside of the stenographic work, and that has never cost more than $300 a year.

It could be done if we combine with some other work, whether it be the Academy or others, and if the Academy will agree to go in partnership with the State Society. If it does, it will be fine, but for a fulltime man you have to pay $10,000 to $15,000 a year and this Society is too small to consider a fulltime man.

I don't know what the New Castle County Medical Society could do towards paying a man its portion of $10-$15,000 which would be about $8,000 a year.

It just can't be done with the dues we have unless you go on a higher basis, if you acknowledge the fact that we will need $15,000 for the salary of a fulltime qualified man for the job. I know I wouldn't consider it for less than $15,000, and I doubt very much that any one who is qualified for that job will consider less than $15,000.

It is all right for the large states to consider a fulltime man, but the committee felt that the part-time, at least we can start that way, until we have more funds would work out.

At the present time our income is only $3950. It is entirely up to the Society either to decide to increase the dues from $10 to $25 a year. If you do so, then I think possibly we can do a better job.

PRESIDENT BIRD: I would like at this point to take the opportunity to say, as I look at this matter, since my name happened to be mentioned, I don't think I want that job for myself. I have stated that to at least one member of the committee. The principle here is: are you going to adopt a budget that does not or cannot provide for an executive secretary? That is the question which has to be settled tonight.

DR. BEATTY: This $500 we paid last year to the legislative representative of the State Society—could that be added on to this.

DR. TARUMIANZ: Next year, 1949, it will be added, as I mentioned in my original remarks. About $100 will be sufficient instead of $500. We can probably get along very well with that amount in representing us with the help of the Executive Secretary. There we can save $400.

Next year the budget will be in deficit unless we consider only $100 for the Legislative Committee. We are going to have a balance of $150 at the end of the fiscal year 1948. That is not a whole lot of money unless you want to go into your savings, which would be very unwise. We don't have very much money. The only funds we have are in THE JOURNAL. We have $7000, and that has been accumulated over twenty-some years.

It seems to me it would be a shame if we started to spend that and then some day during the depression we might not have the good fortune or the good luck to get all the advertisements we are getting now and we then would have to discontinue our JOURNAL.

DR. MUNSON: Isn't it quite true that at the last House of Delegates meeting we passed a resolution whereby the dues of the State Society were increased to $10 as of this year, and increased to $14 as of next.

PRESIDENT BIRD: The motion last year was to increase to $10 this year.

DR. TARUMIANZ: And next year $14.

PRESIDENT BIRD: The resolution was to serve notice that they might be increased to $14 for 1948.

DR. MUNSON: I believe it was to be increased to $14 as of 1948.

DR. TARUMIANZ: That is correct. That would mean an additional $1100.

Mr. President, I would suggest that the Society pass that budget tentatively with the understanding that if we have additional funds we could increase the salaries of stenographic assistants and also the executive secretary. At the moment we are sure of $3950, and I cannot imagine distributing the $3950 any other way except the way the committee has chosen to distribute it.

PRESIDENT BIRD: The discussion last year was: "It is the opinion of the committee that this year we should increase the dues of members from $6 to $10 per annum and that we should serve notice of the change of by-laws so that next year we could increase the dues to $14 per annum.

That was adopted. Now that does not carry with it $14 dues for 1948. It says we could, not that we would. I don't know. That was in Dr. Tarumianz's report last year. That report was turned in last year as a written report, so the wording is exact—we could by next year increase the dues to $14.

Gentlemen, is there any further discussion?

DR. MUNSON: That was the report, Dr. Bird, but I believe the House of Delegates passed the increase. I believe the House of Delegates passed the increase in dues.

PRESIDENT BIRD: Not to $14. There was a report that it could be increased to $14.

DR. MUNSON: That is the report of the committee.

DR. TARUMIANZ: I think Dr. Munson is quite right, Mr. President. I think it was passed.

DR. MUNSON: That is the report of the committee that it could be increased to $10.

DR. NILES: That was passed.

DR. TARUMIANZ: I think that was passed.

PRESIDENT BIRD: This is the whole discussion, gentlemen, for last year. These reports were read and then discussed and acted upon as a whole and the recommendations were not referred to new business. Now, then, I am not going to rule on this. I am no lawyer, but what is your wish?

DR. WARREN: I think the budget is fine, but I think it is much too modest. Why shouldn't we pay higher dues? Is this going to be just a stopgap mechanism to take some of the secretarial work off the hands of the newly-elected secretary or are we going to have a person who is going to the forefront in representing medicine in Delaware day in and day out? I bring this up because a great deal of talk has been going around this past summer in which my lay friends have come to me and said, "Why doesn't medicine wake up. Business learned twenty-five years ago that you can't tell people one thing once and have them believe it. You have got to tell it to them again and again and again." In other words, you have got to have a lot of publicity.

After all, we all belong to this State Medical Society. If you want to be perfectly blunt about it, it is our protection. What are our dues? Ten dollars a year. Good heavens, practically everybody in this room pays much more than that to a country club or church or donations to this, that, or the other thing. Let's get on the ball and be big time for a change.

President Bird: Dr. Warren, of course, your statement contemplates an immediate increase in dues.

Dr. Warren: A big increase. If it takes a $10,000 or $12,000 a year man to represent our interests in the state, I certainly think we ought to have him.

President Bird: Then do you mind if I make a suggestion, gentlemen? I suggest that this whole matter of the budget and the dues be referred to the Council for reconsideration. I don't see how you can draw up a new budget tonight and hash this thing out the way it should be done until it has been gone over again in Committee, with the Council. If necessary, we can call a special meeting of the House of Delegates to hear the new report.

This is a fundamental question, yes, this dollars and cents thing, a protection for the medical practice which is a fundamental thing, and I would like to have as a temporary guide some suggestion here as to whether these dues ought to be raised to $15, $20 or $25. How many are in favor of $15. Those in favor say, "aye." How many are in favor of $20? How many are in favor of $25? It is mighty close between $20 and $25. The committee now has something to go on. This House of Delegates hasn't any objection, then, to raising these dues to $20 or $25, in addition to the county dues. That is a constructive idea at least.

Dr. Tarumianz: Mr. President, $25 will not be sufficient.

President Bird: Not for all the things.

Dr. Munson: I think that the dues, as Dr. Warren suggested, should be markedly increased, sufficiently to make any executive changes that you wish, also sufficiently to pay for all of the entertainment and all of the parts of the program and all of the dinners and so forth that are given by the State Society, because the secretary has one terrible job collecting subscriptions for dinners and so on, and it will be a part of making this a big-time medical group to be able to have the money to throw whatever sort of a party may be necessary at your state convention.

If you look into the survey that was made by the AMA not so long ago on state medical dues you will find that Delaware is way down at the bottom and far down.

President Bird: That is right. California pays $100 per year per man. The reason is that at least one half of those practicing the healing arts in California are cultists, and they have to have high dues to fight the cults. It isn't really to take care of themselves and their own business. It is to fight quackery. I think that is perhaps tops for the country: California's $100 is the highest.

Dr. Tarumianz: I fully agree with Dr. Warren and Dr. Munson. If the House of Delegates is agreeable we could increase the dues to $75 if you wish to do all that has been spoken for here. I think it could be done with $75 per member and associate member $25. Otherwise it is impossible to have a fulltime man and to consider all the expenses involved in the Society's working mechanism.

President Bird: We have all been talking here without a motion. Do I hear a motion now to refer it again to the Budget Committee and the Council?

Dr. Niles: I move it be referred to the Budget Committee and Council for reconsideration.

. . . The motion was duly seconded . . .

Member: If this is referred to that committee, when is it going to be brought up again?

President Bird: It will be brought out as soon as the committee is in position to make a report and then we will call a special meeting of the House of Delegates.

Dr. Tarumianz: Can the House of Delegates increase the dues to $75 without the approval of the Society as a whole?

Dr. Niles: It can only make the suggestion.

President Bird: The House of Delegates is the business body of the Society. But I think it would be unfortunate to jack dues up from $10 to $75 without a poll of the members. I think when it comes to going that far you might find it necessary to count noses. But the proposal now is to refer this to the Budget Committee and the Council for reconsideration.

Dr. Tarumianz: I think, first of all, the House of Delegates should decide definitely whether it is its desire to have a fulltime executive secretary. I think we can decide that right now. That should be done tonight.

President Bird: Who made the motion that we refer this to the Committee on Budget and Council? Will he withdraw the motion? And the seconder, will he withdraw the second?

Dr. Niles: I made the motion. I will withdraw it.

President Bird: Is the second withdrawn. Thank you. Then there is no motion.

The question now is that the Society approve or disapprove the engagement of an executive secretary.

Dr. Rennie: Could there be a little more discussion on that? Is there enough work at this time for a fulltime secretary or is there enough for a man who would be a good parttime secretary with good help; that is, help that will work and do his secretarial work? I would like to hear someone who has been in the chair of the Secretary tell us about it.

President Bird: Dr. Munson, will you answer Dr. Rennie?

Dr. Munson: Mr. President, I think that at the present there is not enough work for a fulltime executive secretary. I think that a man could do a very thorough job at half time, but a secretary can find in every day's mail enough work for a couple or three hours' work to keep all the records up, to keep all the files up, the records of the individual members of the society, to keep in touch with the legislative work, to keep in touch with the AMA committees, and to do the actual work required to go over every bit of correspondence that comes in. I must assume that most of the stuff that comes in the mail has some importance or it wouldn't be sent.

I have found, and I am sure Dr. Hynes has found, that the quickest way to take care of some of that work is to put it in the wastebasket and try to pick out what is actually important, and needs to be taken care of. But I believe that a man working half time could get that office in good shape and keep it there and then as the work increases—and it certainly is going to do that—

the man's time could be expanded to a fulltime job, which I think at some time will be necessary.

Secretary Hynes: May I say a word, Mr. Chairman? It is a little hard to describe the job of secretary at the present time because I am very sure that is a very different job from what the secretary's job must have been ten years ago, and I think the reason is to be found in the fact that American medicine has been engaged in quite a battle during the last 10 or 12 years in maintaining the independent private practice of medicine as opposed to the pressure that has been brought upon it by governmental agencies for a more or less socialized medicine.

Now, as a result of that attempt to defend itself, in the national offices of the societies there has been a tremendous multiplication of special committees, committees that are, some of them, defensive. Others are trying to develop activities on the part of medicine and the medical associations to fill some of the holes that have been shown by the proponents of state medicine.

As a result, for each national committee, there is a division for communicating with all state medical societies and associations through their secretaries, and that in turn is passed on down state committees.

Some of these state committees we don't have. We just authorized a couple of them tonight.

My wastebasket is probably larger than Dr. Munson's because I have had to discard all correspondence that didn't seem to be very urgent. I have utilized the secretaries who work in my office, one of whom is my own and one of whom is the hospital's, without paying much attention to the amount of their time it has taken to do the job, and there is no way of estimating in any case as to how much secretarial time is used except when they stay over for the specific purpose, but I know it is a great deal, that is, just the mechanics of typing communications. Now the job of considering and trying to provide the information requested by the national organization—and this is quite apart from any local business that we might have to do, which isn't very great at the present time—it is the relationships with the national society, etc., that has taken the time of the secretary, which is why in many states now they do have an executive secretary.

I would concur with Dr. Munson's opinion that we do not need a man to handle this job exclusively, but I do think there is probably a place for one executive secretary to serve two or three or possibly other medical organizations.

The New Castle County Society would get a lot more communications if the secretary passed on all he gets. The New Castle County Society could well use one, I believe, or use the parttime services of such a man. Possibly the Academy of Medicine could utilize him to some extent, I don't know. Possibly one of the other agencies in the health field, for instance, the Cancer Society with its newly developing program, might utilize the services of such a man.

It seems to me we are not big enough to take on a fulltime man, but it does need a considerable amount of time and it is a large parttime job if it is going to be done right.

I simply haven't been able to attend to many of the details that might have been done and which are important for the general good of the medical practice in the country and in the state.

Dr. Warren: Mr. President, may I say one other thing? I was the one who threw this bombshell or stinkpot or whatever it was. My conception was a little bit broader, I think, than mere secretarial work. As the Executive Secretary of the Medical Society of Delaware, if that man decided that he wants to make a press release the papers would take it, just like they do when Dr. Bird, as Editor, has something and they take it and quote it.

I think there is a big job that could occupy the other half of the man's time to educate the people of Delaware in what their doctors are doing, what they are doing in ordinary life.

A good example of it came out during the past summer which to me was perfectly nauseating. It may not have been so to others. It quoted a doctor as having given a lot of time to poliomyelitis cases. Every man here has given a great deal of time for free, but does the public know that? No! They don't know that. There are many other facets to this thing. I think we need somebody who will make releases and get in touch with all the papers in the state and get out stuff that shows that medicine is on the ball and that we are not just a bunch of pill doctors rolling around and calling up the drugstores after we've looked at our patients. That is my conception of the thing. This is a big-time job. I may be all wrong. If so, I am perfectly willing to be outvoted, but that is my conception of it.

President Bird: Of course, what you are talking about now is a public relations officer, in addition to an executive secretary. That has been mentioned in the past. As a matter of fact, Dr. Deakyne in his Presidential address last year mentioned that and he made a further observation, with which I fully agree, that such a man would have to be a fulltime public relations man. There is no doctor in the state competent to carry out that kind of job. That takes you further afield in the dues and duties. There is no motion. Would somebody care to make a motion on this budget matter?

The idea seems to be, from the secretaries present—leaving out the public relations end at the present—that executive secretary's position does not need a fulltime man—a parttime man is sufficient.

Dr. Tarumianz: I would like to ask the members of the Budget Committee if they are agreeable to changing the item of parttime executive secretary, for 1948, from $1200 to $2300, since we will have $1100 more if the dues are going to be increased to $14 next year, provided that has been passed.

Dr. Munson was secretary and he tells us it has been passed. If that has been passed, we will have an additional $1100 and that will give the Society an opportunity to go ahead at least for one year as a trial by having a parttime man for $2300, which will be sufficient for an hour or two per day.

I think that is about all we can do with the funds we have unless you change completely the budget and have a new budget established.

Dr. Niles: Why can't we try this, just as it is drawn up, for a year?

President Bird: Is that a motion? I have no motion.

Dr. Tarumianz: I move that the budget as presented with the amendments be accepted.

President Bird: Amendments contingent upon raising the dues to $14 for 1948. The motion then, as I understand it, is that the budget be approved with the amendments.

Dr. Tarumianz: To increase the parttime secretary's salary to $2300.

President Bird: Contingent upon the dues being raised to $14. Is that motion seconded?

Dr. Niles: I second the motion.

President Bird: Is there any other discussion?

Dr. Pierson: That is only $1100 now available. As I look at the figure now provided for the secretary himself, it seems to me that the amount allowed for his stenographic or sub-secretarial services looks to be pretty skimpy. I don't know how much time he is going to have to give to the secretary. I suppose he is himself a typist and is able to do a lot of secretarial work and in that way be able to get it done. It looks to me, and I would like to ask Dr. Munson and Dr. Hynes, if they don't feel that the stenographic work or subsecretarial work would require a larger allotment as it is specified?

President Bird: Dr. Munson, will you answer Dr. Pierson?

Dr. Munson: Mr. President, I felt that I did a bare minimum in carrying out that office. I answered the letters that had to be answered, and carried on the correspondence that I had to do, and I had a good stenographer who worked an average of four to six hours a week.

Now I would say that, to carry out the functions of the job as they should be done, a good stenographer could use anywhere from six to twelve hours a week. The average would vary at the different times of the year. Around convention time it would go up, and when you make up the program it would go up. And then there would be times when things would be fairly quiet. But I don't think that the amount of money which is allotted under this schedule could possibly pay for the time of a good stenographer and a good bookkeeper and a good file clerk for the amount of work that the executive secretary would have to do in parttime.

Dr. Tarumianz: Apropos to that, I will amend my motion with a second amendment to increase the salary of a parttime stenographer from $300 to $425—that is all we have!

President Bird: Is there any other discussion?

Dr. Tarumianz: We will be working in the red, and we have always considered that we have to work in the black.

Dr. Messick: I was going to make an amendment to Dr. Tarumianz's motion. After listening to this discussion, it seems to me that this is the key to our working of the State Medical Society, and we might try to come somewhere in between. I was going to amend Dr. Tarumianz's motion that if the dues should be increased to say $25 we would have more money with which to work. I would, therefore, like to amend the motion that this Houes of Delegates refer this matter to the Budget Committee and the Councilors with the recommendation that we employ a half-time secretary which will allow two or three hours a day for the actual mechanics and a little bit of extra time for legislative duties, this, that, and the other thing, and we set a limit of $5000 per year for the secretary and his help, provided the dues are raised to $25 or whatever figure that is necessary in order to come up to half-time and $5000.

President Bird: I understand there was a previous motion, Doctor, with two amendments Dr. Tarumianz made in relation to the salary of the secretary and the stenographic help, which was seconded, contingent upon the raising of the dues to $14. Does that motion still stand, gentlemen, or do you want to withdraw it?

Dr. Tarumiaz: I don't withdraw it right at this moment.

President Bird: Is there any further discussion on that motion? Do you all understand what it is? It is that the budget be approved with the additional $1100 added to the salary of the parttime executive secretary, and an increase of $150 to the salary of the stenographer.

Are you ready for the vote?

Member: Why don't we add a little more than that to the secretarial worker? Why not split that a little bit?

Dr. Tarumianz: The trouble was that you couldn't find any one who would work for less than $2300.

Member: Yes, but where are you going to get a girl to type all this out for $400, if the secretary works that much harder?

Dr. Tarumianz: It seems to me that we have an elected secretary. After all, he has duties to perform necessarily, just as all the committees do and all the other officers do. It seems to me that the secretary is not going to have just the simple job of assisting during the meeting. He has certain duties to perform and he should take part in that and the Society certainly expects him to do that much. I don't think the executive secretary is going to take away all the jobs from the elected secretary. I don't think that is in the books.

Dr. Beatty: Dr. Tarumianz, we don't differ with you on a thing like this. It is something we should do.

Dr. Tarumianz: If the dues are going to be $14 it can be done, Dr. Beatty. If you agree here to increase the dues to $16 or $18 it can be done—anything you want. Now, the $5000 was an extreme. I don't know what you want to do with $5000. That means you would have to increase to $125 the dues. Would the downstate men agree to that? I don't know. They haven't said a word. We haven't heard from the downstate men. The New Castle County people have discussed this matter. I would like to hear from Dr. Barnes and Dr. Riggin. Mr. President, why don't you ask the downstate men to discuss this thing.

President Bird: Suppose we do that. Dr. Beebe, may we have your comment?

Dr. Beebe: I would like to hear from Dr. Riggin and Dr. Barnes first.

Dr. Riggin: It is pretty hard to say offhand about the other men, but in view of the fact that you spend money for other things, I don't think there is any objection to some increase. I doubt if they will stand for the $75 job, but they might agree to a moderate increase. I would be inclined to say that a moderate increase would be agreeable to the men, don't you think so, Dr. Barnes?

Dr. Barnes: I would think so.

Dr. Riggin: Something within reason. Of course when you jump from $10 to $75 somebody is going to have a heat stroke or something when they get that offhand. I think the average downstate man would be agreeable to a fair increase in the dues.

President Bird: Gentlemen, there is still a motion before the House. The motion was made by Dr. Tarumianz and seconded by Dr. Niles that the budget be approved as read, with those two additional salary increases, contingent upon the House of Delegates raising the dues to $14 for 1948.

Is there any further discussion?

Dr. Rennie: What do the members think of raising the dues to say $50 and then not having any assessments, because you are assessed at these meetings $10 here, $6 there, and $2 here. With a definite fund things could be worked out and we would know in advance that we were going to have a banquet and the probable cost of that, and if it is just $50 we will save a lot of work for the secretary in collecting the charges for these things, and I would like to hear a little discussion on that.

Dr. Barnes: Our county dues in Sussex County are $18 now. Ten dollars of that goes to the State Society.

President Bird: What would their reaction be to paying $50 plus your $8?

Dr. Barnes: My personal opinion would be that there would be quite a lot of complaint against it.

Let's take Dr. Tarumianz's idea and let this be a trial period for a year. To raise the dues to $14, $15, or $25 I think would be perfectly all right. I can't see $75.

In the report of the Budget Committee they said pretty definitely that they did not feel that our Society is large enough to have an office for a full-time executive secretary.

These men have considered this proposition. I don't think that we should overrule them to that extent.

PRESIDENT BIRD: As a matter of fact, this House last year voted for the establishment, if it could be financed, of an office of a parttime executive secretary. The House already has done that a year ago. Now, of course, this House has the right tonight to do as it pleases. It can revamp the schedule, but the setup from last year was for a parttime man.

The feeling seems to be that the downstate doctors would accept something reasonable, but they think $50 is too high—perhaps up to $25.

DR. FLINN: Dr. Messick suggests a $20 or $25 dues, with enough funds to secure a half-time secretary with a top limit of $5000, and who would provide his own stenographic help. That doesn't mean, as I understand it, that the salary has to be $5000 if we could get one for less. If we can get $2300 from dues of $14, I should think that on $25 dues we should be able to spend $4000 or $4500. His suggestion further was to refer that to the Budget Committee and the Council with a report back for action.

PRESIDENT BIRD: I think in this discussion we seem to be getting the cart in front of the horse. We are trying to arrange a budget, trying to do something to increase the efficiency of this Society especially in its public contacts, when the whole thing is contingent upon the amount of dues we are going to have.

There is a motion. I think that the proper thing now would be to duly withdraw that motion and make a motion to set your new dues. Dr. Tarumianz, will you withdraw your motion?

DR. TARUMIANZ: Yes, I will do that.

PRESIDENT BIRD: Will the seconder of the motion withdraw his second?

DR. NILES: Yes.

Dues

PRESIDENT BIRD: Will somebody move that the new dues be set?

DR. BEATTY: I move that they be raised to $25 a year.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: Dr. Beatty moved that the dues be raised to $25 a year. Is there any further discussion on that? It has been moved and seconded that the dues for 1948 be —

DR. TARUMIANZ: With the understanding that this $25 will include assessments for dinners and so forth, or other extras?

DR. JONES: No.

PRESIDENT BIRD: No, not out of the $25.

DR. TARUMIANZ: Let's be sure we know what we are doing.

PRESIDENT BIRD: We will still have to sell dinner tickets. That is not an assessment; that is a voluntary purchase. You come if you want to, and pay whatever the cost.

With that understanding on the question, all in favor say, "aye;" all opposed, "no." It is carried. Gentlemen, the dues for 1948 are $25.

Now the question of the budget comes up. Shall we refer this for revamping in the light of the new funds to be raised?

DR. FLINN: I so move.

PRESIDENT BIRD: Do I hear a second?

. . . The motion was duly seconded . . .

PRESIDENT BIRD: Is there any comment on that? All in favor say, "aye;" all opposed, "no." It is so ordered.

As soon as the Budget Committee and the Council are ready we will call a special meeting of the House, we hope tomorrow.

DR. TARUMIANZ: We can present this tomorrow.

PRESIDENT BIRD: Fine. That ends that for tonight.

Now the only other report that had any new business in it was the Cheff Memorial.

Cheff Memorial

SECRETARY HYNES: The Committee on Cheff Memorial asked for instructions as to the type of policy — I presume meaning insurance policy — which is to be purchased with the funds at their disposal, roughly $4800, and also suggested that a committee be appointed for that purpose.

If I may comment on the report, it seems to me the same committee that has handled it would be the one to proceed, and it would also seem that some kind of endowment insurance would be the thing they have in mind.

DR. FLINN: Are you referring it back to the Committee with power to act after consultation with the Council?

PRESIDENT BIRD: You didn't make a motion, did you?

SECRETARY HYNES: No.

PRESIDENT BIRD: Will you make that as a motion, Dr. Flinn?

DR. FLINN: Yes.

DR. BIRD: It has been moved that this matter be referred back to the Committee, with power to act after conferring with the Council. Is there a second to that?

DR. FORREST: Yes.

PRESIDENT BIRD: Any further comment? All in favor say, "aye;" all opposed, "no." It is so ordered.

Now we come to the election of officers. Let's have the report of the Committee on Nominations.

. . . Dr. Messick then presented the report as follows:

Report of the Committee on Nominations

1st Vice-President, M. A. Tarumianz, Farnhurst; 2nd Vice-President, H. V'P. Wilson, Dover; Secretary, G. A. Beatty, Wilmington; Treasurer, W. D. Lattomus, Wilmington; Councilor, J. M. Messick, Wilmington; Delegates to A. M. A., James Beebe, Lewes; Alternate to A. M. A., C. C. Neese, Wilmington; Representative to D. A. M., W. O. Lamotte, Wilmington.

Scientific Work: G. A. Beatty, Wilmington; Stanley Worden, Dover; E. L. Stambaugh, Lewes.

Pub. Policy & Legislation: J. S. McDaniel, Dover; J. D. Niles, Townsend; Bruce Barnes, Seaford.

Publication: W. E. Bird, Wilmington; M. A. Tarumianz, Farnhurst; G. A. Beatty, Wilmington.

Medical Education: W. Garrett Hume, Selbyville; R. S. Layton, Dover; J. W. Howard, Wilmington.

Necrology: Wm. Marshall Jr., Milford; G. W. K. Forrest, Wilmington; U. W. Hocker, Lewes.

Medical Examiners: J. S. McDaniel, Dover; Wm. Marshall Jr., Milford; J. E. Marvil, Laurel; W. E. Bird, Wilmington; L. W. Jones, Wilmington; R. S. Long, Frankford; E. R. Mayerberg, Wilmington; C. L. Munson, Wilmington; H. P. Wilson, Dover; I. T. McCollum, Wyoming.

PRESIDENT BIRD: You have heard the report of the committee.

SECRETARY HYNES: May I make a remark about this? I received today a communication from the AMA to the effect that according to their By-Laws the delegate should be elected for a term of two years.

PRESIDENT BIRD: That is correct. There was some question last year as to when the term expired and I took the trouble to look it up. Apparently we elect in the odd year, to serve for two years.

. . . President Bird then read the names of the delegates to the AMA from 1936 to date . . .

PRESIDENT BIRD: If the ticket goes through tonight the delegate and alternate are elected for two years. You have heard the report of the Nominating Committee. Are there any other nominations from the floor for any office or for any committee?

DR. FORREST: I didn't hear the name of the secretary.

PRESIDENT BIRD: Dr. Beatty, Gerald A. Beatty.

DR. FORREST: Yes, indeed, he is all right.

PRESIDENT BIRD: The Chair will entertain a motion that the nominations be closed and the Secretary cast a unanimous ballot.

DR. FORREST: I so move.

. . . The motion was duly seconded . . .

PRESIDENT BIRD: All in favor say, "aye;" all opposed, "no." The "ayes" have that.

Are there any resolutions, Mr. Secretary?

SECRETARY HYNES: There have been none offered.

PRESIDENT BIRD: Are there any communications that should be read here now?

Naval Air Reserve

SECRETARY HYNES: This is a communication from the Navy calling attention to the fact that the Naval Air Reserve Training Command with headquarters at Glenview, Illinois, has 18 nationally located Naval Air Stations and 4 Naval Air Reserve Training Units at which Naval Reserve Medical Officers may serve on active duty with full pay and allowances and with the privilege of returning to civilian life at any time upon request. Additional details may be obtained from Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Illinois.

It was anticipated that the Commanding Officer of the Naval Air Station, Willow Grove, Pennsylvania, would send a representative of the medical department to the meeting of the Medical Society of Delaware, but the Society did not find a place on the program for him, so we are reading the communication.

PRESIDENT BIRD: Thank you, Doctor. Is that all of the communications?

The next item on the agenda is appropriations. It is customary for the House to move the necessary expenses of the meeting will be appropriated.

. . . The motion was duly made and seconded . . .

PRESIDENT BIRD: All in favor say, "aye;" all opposed, "no." The "ayes" have it.

Next is the approval of the scientific program.

. . . The motion was duly made and seconded . . .

PRESIDENT BIRD: All in favor say, "aye;" all opposed, "no." The motion is carried.

Selection of a Meeting Place for the 1948 Meeting

DR. BARNES: Mr. President, I believe Sussex County is the meeting place for the next meeting, and th Sussex County Medical Society cordially invites the Medical Society of Delaware to be its guest at Rehoboth on September 13-15, 1948. It is one week after Labor Day.

PRESIDENT BIRD: What day of the week is the 13th?

DR. BARNES: Monday.

PRESIDENT BIRD: Meaning a two-day session, the 14th and 15th, with the House of Delegates meeting the night of the 13th?

DR. BARNES: Yes, sir.

PRESIDENT BIRD: Do I hear a motion to accept this generous offer?

DR. NILES: I move we accept the invitation.

DR. RENNIE: I second the motion.

PRESIDENT BIRD: All in favor say, "aye;" all opposed, "no." The motion is carried.

Is there any miscellaneous business?

Miscellaneous

DR. FLINN: Mr. President, apropos this program announcement for next year, I suggest that the members of the Society be notified of the date and place of this meeting on several occasions, several months in advance, and that some preliminary schedule of the scientific program be mailed to each member one month in advance. It is very difficult to remember all these dates, and frequently many of us are confronted with the knowledge of the meeting two or three days in advance, and it is practically impossible for the members to be present.

PRESIDENT BIRD: That is a very good suggestion, and we will put it on the front cover of THE JOURNAL two or three months in advance. This year it was on the front cover one month in advance, with a skeleton program in the text, most of the men know that our meeting is the second week in September when we go to Rehoboth; otherwise it is always the second week in October.

DR. RIGGIN: I have something in mind. It is not a motion, but I want to put it before the House of Delegates and see if there is any sense in it or see if it is too far-fetched.

The physicians of Delaware do not get the recognition from the A. M. A. that is due them. We belong to the A. M. A. and we send a delegate there. The delegate is checked in and the delegate comes back and tells us what other people are doing.

I think it is high time that the talents we have in Delaware be recognized. Although we are small in number, there is enough talent in Delaware and enough good work being done here for the men in Delaware to be recognized outside of their own state for the work they are doing.

Now I think that this Society should encourage the work of all the men in the state with some objective in view. If we had a committee that reviewed all the papers written by men in this state, this committee could select what they think is the best paper of the year or of the half-year and submit it to the AMA.

We have just as good men in Delaware, that is, counting the numbers, etc., as they have in other states. I think we should make some effort to have the AMA give the men of the smaller states, men who are probably not writing books and who are not professors in colleges, some recognition. The outside world should know what everybody is doing, but nobody knows about the Delaware work but the people in Delaware.

I don't know whether that is fantastic or not, but I know very well you never see anything in THE JOURNAL of the A. M. A. about what the men here are doing, and I know there is plenty of good work being done here.

PRESIDENT BIRD: Let me correct a little misconception. There have been several papers by Delaware doctors in the Journal of the A. M. A. Dr.

Flinn had one last May or June, and there have been three or four within the last year that I have seen.

The situation is not a question of state society to national society. It is a question of the literary product of the individual doctors being checked in the office of the Journal of the AMA. You have got to get by their Editor; it's entirely an editorial problem, beyond our control.

Dr. Tarumianz: Mr. President, I presume Dr. Riggin does not discuss the matter pertaining to scientific papers. If you have a scientific paper, it doesn't make any difference if you come from Delaware or any other state, they will accept it if it is an acceptable scientific paper. I don't think they have any discrimination or make any distinction as to where it comes from, but I do believe that we should have some news from Delaware every month. As a matter of fact, every week we can have news, and I assume the executive secretary will assume the responsibility of giving the news. When you look at the news from the various states you almost never see anything from Delaware: I have seen it but once or twice. That is something that we should consider.

I don't think you can force them to accept papers that they don't consider scientific. They have accepted one or two papers. They accepted one from me. Very rarely will they accept a scientific paper unless it contains something new.

Dr. Flinn: I would like to corroborate Dr. Tarumianz's statement. In 1946 Dr. McGee happened to be in Chicago and he stopped into the AMA office — I forget the girl's name — but she said, "Oh, you're from Delaware. We are so glad to see you. We don't hear much from Delaware. We would like to have something in our column from Delaware in the Journal under states. Would you be kind enough to send us some information?"

Dr. McGee passed it on to the Secretary of the State Society. He passed it on to me as President of the New Castle County Society, and it emphasized that it was necessary that the news be sent currently because they do not wish to publish something that happened a month or two previously. They want, and have wanted, and have written that they want, current medical news from the state of Delaware. I think there again the executive secretary will answer that point without further question.

President Bird: Thank you, Doctor.

Is there any further discussion or miscellaneous problems to bring up? If not, a motion to adjourn is in order.

. . . Motion to adjourn duly made and seconded . . .

President Bird: The meeting is adjourned.

. . . Thereupon the meeting adjourned at 11:30 p. m., o'clock . . .

October 14, 1947

A special meeting of the House of Delegates was convened at the Wilmington Country Club at 1:45 p. m., October 14, 1947, to consider the revised budget, Dr. W. Edwin Bird, President, presiding. 22 members of the House were present.

The revised report of the Budget Committee was presented as follows:

BUDGET FOR 1948

Expected Receipts

1. Annual dues from 280 members at $25.00	$7,000.00	
2. Annual dues for Banquet Dinner	750.00	
3. Exhibits at the Annual Meeting	150.00	
4. Dividends (bank stock)	100.00	
Total receipts	$8,000.00	$8,000.00

Disbursements

Salaries

1. Executive Secretary, part time	$3,000.00
2. Stenographer, part time	800.00
Total	$3,800.00

Office

1. Printing	$ 100.00
2. Stationery	100.00
3. Postage	75.00
4. Fee for Special Stenographer for Annual Meeting	200.00
5. Programs	50.00
6. Badges	50.00
7. Miscellaneous	100.00
Total	$ 675.00

Travel

1. Delegate to A. M. A. (for two sessions)	$ 200.00
2. Miscellaneous for attending conferences, visiting county Societies, expenses for speakers, etc.	150.00
Total	$350.00

Operation

1. Subscriptions to journal 280 members (at $2)	$ 560.00	
2. Annual dinner	700.00	
3. Annual luncheon	200.00	
4. Meals for Delegates	50.00	
5. Miscellaneous	300.00	
	$1,810:00	
Total of disbursements		$6,635.00

As you can see from the above budget, at the end of the fiscal year 1948 we will have a balance of $1,515.00.

Respectfully submitted,
C. E. Wagner
J. D. Niles
J. S. McDaniel
James Beebe
M. A. Tarumianz, *Chairman*

Upon motion duly made and seconded, the revised budget was unanimously adopted, and the Budget Committee was authorized to proceed with the plan. The meeting then adjourned at 1:50 p. m.

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+ Editorial +

DELAWARE STATE MEDICAL JOURNAL

Owned and published by the Medical Society of Delaware, a scientific society, non-profit corporation. Issued about the twentieth of each month under the supervision of the Committee on Publication.

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Articles are accepted for publication on condition that they are contributed solely to this JOURNAL. Manuscripts must be typewritten, double spaced, with wide margins, and the original copy submitted. Photographs and drawing for illustrations must be carefully marked and show clearly what is intended.

Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus, published by the American Medical Association, Chicago.

Changes in manuscript after an article has been set in type will be charged to the author. THE JOURNAL pays only part of the cost of tables and illustrations. Unused manuscripts will not be returned unless return postage is forwarded. Reprints may be obtained at cost, provided request is made of the printers before publication.

The right is reserved to reject material submitted for publication. THE JOURNAL is not responsible for views expressed in any article signed by the author.

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Subscription price: $4.00 per annum, in advance. Single copies, 50 cents. Foreign countries: $5.00 per annum.

VOL. 19 DECEMBER, 1947 No. 12

IN RETROSPECT

Your Editor is now nearing the end of his year as President also of the Medical Society of Delaware. The editorial for January, 1947 (q. v.) entitled "The Year Ahead," pointed to eight important items on the agenda for this year. Let's look backwards for a moment and take stock of ourselves.

1. Federal Legislation—The socialization of medicine not only did not materialize, but, while it will be reattempted in 1948, its attainment gradually becomes more and more remote.

2. State Legislation—All bills approved by the Society passed, and all bills opposed by the Society failed to pass.

3. Wilmington License Fee—Despite the statement of the City Council, as reported in the press of April 24, 1947, that the annual license fee of $50 would be halved, no action has yet been taken, eight months later. The doctors have neither forgotten nor forgiven that outrageous hike from $10. If Council fails to make good its promise before the next mayoralty campaign the medics may spring some surprises in that campaign that the stand-pat politicos won't like.

4. State Society By-Laws—Material progress has been made, and they will be ready for action at the 1948 Session.

5. New Castle County Society By-Laws—Necessarily awaiting the final form of the State Society By-Laws.

6. A. M. A. Centennial—Delaware was creditably represented in the National House of Delegates, The National Auxiliary, and on the scientific program.

7. Annual Session—We have been pleased at the comments that have come to our ears about the 1947 meetings of the House, the scientific program, and the social events. Thanks, everybody.

8. Cooperation — We prayed for closer cooperation, and we believe our prayers were answered, to a degree. However, we have reached no Utopian state of affairs yet; there is still room for improvement. Honestly, wouldn't you, too, get a bit peeved if your letter, important to you and the job you're doing, remained unanswered for weeks on end? Sure you would—so 1948 will be an even better year!

THE LATE DR. TAYLOR

Having chatted at length with Dr. Taylor at the A. M. A. Secretaries' and Editors' Conference in Chicago on November 7th and 8th, and knowing that he had suffered several coronary attacks, we were nevertheless shocked to read this front page item in the *Wilmington Journal-Every Evening* of December 5th:

> **GUEST OF HONOR DIES FOLLOWING TESTIMONIAL**
>
> FORTH WORTH, Dec. 5 (A.P.)—Dr. Holman Taylor died last night as the guests at a "flowers for the living banquet" given in his honor were filing out of the hotel ballroom where the affair was held.
>
> After speakers had heaped praise on him, Dr. Taylor, executive secretary of the Texas State Medical Association, arose and said, "Now I know the difference between a kick in the pants and a pat on the back."
>
> After the dinner was over and the guests began to leave, Dr. Taylor stopped to greet some of the guests. While talking to them he was stricken with a heart attack and died within a few minutes.

In addition to his other duties, Dr. Taylor had been, for the past 38 years, editor of the Texas State Medical Journal, one of the country's largest and best state medical journals, in which we had known him on a most friendly basis, for over 20 years.

One episode remains preeminent in our memory. In 1933, when ex-Vice-President of the United States Charles G. Dawes,* who was then President of the Chicago World's Fair, entertained the Secretaries and Editors' Conference at a dinner in the Administration Building of the Fair, we sat at Dr. Taylor's right and, according to our invariable custom, conversed with him about snakes, he being one of the country's best amateur herpetologists, ranking close to the late Dr. Howard A. Kelly, our former teacher at Johns Hopkins. Dr. Taylor kept rattlers, copperheads, bushmasters, and other venomous snakes, along with miscellaneous varieties of innocuous snakes, in his backyard, assisted by his son.

The gentleman at Dr. Taylor's left listened most attentively, in silence. Finally, when Dr. Taylor said he had seen in Texas a coral snake, supposed to dwell only in Florida and vicinity, the gentleman could contain himself no longer and said: "I heard the Doctor on your right say you were Dr. Taylor. Dr. Taylor, I too am interested in snakes. You stated several things about them that I had never known before, especially about the migration of the coral snake. I shall have to investigate that." Replied Dr. Taylor: "I'm glad to find somebody else who is interested in snakes. It's been my hobby for years. And may I ask what is your name?" Whereupon the gentleman handed Dr. Taylor his card. The gentleman? Raymond Lee Ditmars, curator of the New York Zoological Gardens, and the greatest authority in the world on snakes! L'envoir, the investigation on the coral snake migration confirmed Dr. Taylor's statement.

Anent this same subject of snakes, Dr. Taylor, under date of August 29, 1947, thanking us for some information we had sent to him at his request, wrote:

STATE MEDICAL ASSOCIATION OF TEXAS

August 29, 1947.

Dr. W. Edwin Bird, President
Medical Society of Delaware,
101 West 10th Street
Wilmington, Delaware.

Dear Dr. Bird:

I thank you for the information you gave me about the expenses of your Delegate to the American Medical Association, as per my letter of June 28th, to Dr. John F. Hynes. I have had quite a satisfactory response to my letters about this matter, and, incidentally, the information has resulted in the decision of our Board of Trustees to pay the full expenses of our Texas delegates to the annual sessions of the American Medical Association. That is going to sum up (there being five Texas Delegates at the present time), and I don't know whether we can continue the practice, but it seems we can always get enough money to do what we want to do badly enough.

I note your reference to the snakes. Since my son flew the coop, and not being able to help me look after the snakes, I had to discontinue playing with them. I suppose it is perfectly natural, but people are as afraid of an unoffensive grass snake as they would be of a rattler, and the presence of a den of snakes in a fellow's backyard makes him a sort of pariah among his neighbors. Some day, after I have retired and have more time for it, I plan to get me a little place in the country not far away, and raise both chickens and snakes. Incidentally, it is said that fowls have evolved from the snakes of prehistoric times. If you have not noted it, you can find a lot of physical and temperamental analogy between the two species, as witness the hissing of the goose, to name only one of the characteristics.

Incidentally, my son is just finishing a Residency in Dermatology and Syphilology at the University of Michigan, Ann Arbor. We don't know where he will locate for the practice of his specialty.

With personal regards and best wishes, I am

Fraternally yours,
HOLMAN TAYLOR, *Secretary-Editor*

Dr. Taylor, one of the wheel-horses of organized medicine in this country, had the bill for a Federal Department of Health gone through, would have been, according to the grapevine, the A. M. A. choice for the position as this country's first Secretary of Health. And he would have made an excellent one.

We shall miss Dr. Taylor very much from the public viewpoint of him as a medical organizer and executive, and from our private viewpoint of him as a personal friend and herpetologist.

Dr. Taylor's untimely death—he was only 73—makes your editor of the Delaware State Medical Journal, who, with this issue completes his 32nd year as editor, the second state medical editor in this country in point of years of service, outranked only by Dr. Clarence Smith of *Northwest Medical Journal,* who is 85 years of age, in remarkable health and activity, goes to his editorial office every day, and has recently completed his 44th year as Editor. We had a lovely chat with him in Chicago last month, and we have no desire to wrest from him his laurels as the country's senior state medical editor.

---

* We still have a complimentary ticket to the "Wings of a Century" autographed by Mr. Dawes.

Editorial Notes

At the recent 158th Annual Session the registration was as follows:

House of Delegates:	
October 13	23
October 14	22
Scientific Meetings:	
Members	145
Visitors	12
Residents and Internes	9
Medical Students	9
Total	175

At the annual banquet 124 members and guests were present. The total costs were \$705.55; \$702.00 was collected, leaving a deficit of \$3.55.

Dr. Forrest Honored

Dr. George W. K. Forrest, a former mayor of Wilmington, was honored on November 20th, on his fiftieth anniversary as a practicing physician as three other mayors of the city joined approximately 100 doctors from all parts of the state to pay him tribute.

A a dinner in the Shrine Club, Gov. Walter W. Bacon headed the guest list, with Attorney General Albert W. James as another speaker. Dr. William H. Speer was toastmaster and headed the arrangements committee. Gov. Bacon, Mr. James, and Dr. Speer all served as mayors of Wilmington.

Speakers lauded Dr. Forrest for his service to the city as mayor and also for his devotion to the medical profession and his general service to the community.

Dr. Forrest served as mayor for eight years. longer than any other mayor. It was recalled that the Marine Terminal had been started, the Bayard, George Gray and Warner schools had been built; an outside accounting system had been inaugurated in city offices; miles of city streets had been laid, all during the doctor's term of office.

A matched set of humidors, pipe tray and ash tray were presented to Dr. Forrest by Dr. V. D. Washburn, in the name of the physicians who attended. A large bouquet was also presented by the Rev. Dr. Charles W. Clash, rector of Immanuel Episcopal Church.

Dr. Forrest expressed his appreciation to all concerned in the testimonial. He also spent some time reminiscing over his early days, the doctors he had known, and the first car he ever owned—a two-cylinder Maxwell. He also recalled that he and Dr. M. I. Samuel, who was present, are charter members of the New Castle County Medical Society.

Two other doctors also received floral bouquets for practicing over comparable periods of time, Dr. Frank F. Pierson, Wilmington physician who was honored at a similar affair six years ago, received a presentation from Dr. James Beebe of Lewes, while Dr. Dorsey W. Lewis of Middletown was also honored, with Dr. Bruce Barnes of Seaford making the presentation.

OBITUARY

Walter L. Liefeld, M. D.

Dr. Walter Link Liefeld died suddenly on October 30, 1947, of a pulmonary embolism as he was preparing to perform an operation in his private hospital. Two months ago, while vacationing in Maine with his wife and son, he broke his hip, but after a pin operation apparently made a complete recovery and for two weeks before his death had been operating daily with the help of crutches. Dr. Liefeld was buried from St. Luke's Episcopal Church, Seaford, and interred in the church graveyard. He is survived by his wife, Grace McIntosh Liefeld and a twelve-year-old son, Walter Link Liefeld, Pr. A sister, Mrs. A. C. Keiser of Atlanta, two brothers, Dr. Herbert T. Liefeld, Jamaica, Long Island, and Ralph A. Liefeld, Detroit, also survive.

He was born in New Haven, Connecticut, in 1886, was graduated from Cornell University Medical School and was elected a member of the American College of Surgeons in 1923. He began his practice in Passaic, N. J., but in the early thirties moved to Wilmington, where he became chief of otolaryngology at the Wilmington General and St. Francis Hospitals and on the staff of the Delaware and Memorial Hospitals.

In 1941 he moved to Seaford. At the time of his death he was on the staff of Beebe Hospital, Lewes, the Milford Memorial Hospital, Milford, and the Peninsula Hospital, Salisbury, Md. He was a member of the Medical Society of Delaware, and Sussex County Medical Societies, and of the American Medical Association.

Dr. Liefeld was a fishing and boating enthusiast and for some years raced his cruiser in the annual race from New York to Block Island. He was formerly a member of the Cornell Club, the New York Athletic Club and the New Rochelle Yacht Club. Two years ago he was elected an honorary life member of Kiwanis in recognition of his work with handicapped and underprivileged children.

BOOK REVIEWS

The American Illustrated Medical Dictionary. By W. A. Newman Dorland, M. D., Member Committee on Nomenclature and Classification of Diseases of the A. M. A.; with the collaboration of E. C. L. Miller, M. D., Medical College of Virginia. 21st edition, pp. 1600, with 880 illustrations, including 233 portraits. Price, $8.00 without thumb index; $8.50 with thumb index. Philadelphia: W. B. Saunders Company, 1947.

The reappearance of another Dorland is welcome. Appearing first in 1900, and revised every two or three years thereafter, Dorland has become a byword to every American physician, regardless of specialty. This 21st Edition includes the voluminous additions to medical terminology resulting from the research and discovery of the war years. The entire volume has been scrutinized for factual and typographic accuracy.

Still the best medical dictionary of its size in the English language.

Gifford's Textbook of Ophthalmology. By Francis H. Adler, M. D., Professor of Ophthalmology, University of Pennsylvania Medical School. Fourth edition. Pp. 512, with 310 illustrations. Cloth. Price, $6.00. Philadelphia: W. B. Saunders Company, 1947.

The revision of the third edition stated that Dr. Frank Adler's edition would be of the highest quality and the most scientific that such a size would permit. On the whole, this has been accomplished.

The book is larger in size; longer, wider, and contains 55 more pages. It is rewritten and brought up to date, and throughout is an Adler production. Special emphasis has been laid upon the relation of the eye to general medicine and neurological conditions. The 50 pages on disturbances of ocular motility is an excellent presentation of this subject and any family physician who would read it should be benefited. Many illustrations have been added. At the end of each chapter many references are given. An orientation in various surgical procedures is given in a separate chapter and can be referred to when needed without interrupting the subject under discussion. The chapter on glaucoma should lay more stress on premonitory symptoms and differential diagnosis, since this disease is responsible for such a large percentage of blindness which could be reduced 90 per cent if recognized at early stage and treated by competent ophthalmologists.

This edition has carried out Dr. Gifford's original purposes of being of value to the medical student and to the physician not specializing in ophthalmology. An effort has been made to acquaint the physician and the medical sudent with those diseases of the eye which he may safely treat himself, and to indicate when he should direct the patient to seek more expert advice.

Pharmacology, Therapeutics and Prescription Writing—For Students and Practitioners. By Walter Arthur Bastedo, M. D., Associate in Pharmacology and Therapeutics and Assistant Clinical Professor of Medicine, Columbia University. Fifth edition. Pp. 840, with 82 illustrations. Cloth. Price, $8.50. Philadelphia: W. B. Saunders Company, 1947.

This author is known to practically every medical student and practicing physician for his particular interest in and ability to write about pharmacology and therapeutics. The book is well written and is of practical interest, particularly to the internist and general practitioner. It could be used as reference for practically every type of specialist.

The new drugs have been added to the edition, particularly such drugs as amino-acids, coagulants, anti-coagulants, snake venoms, analeptics, rutin, folic acid, thiouracil, and propyl-thiouracil, anti-biotics, the sulfa drugs, the cardiac glycosides, mercury diuretics, as well as B. A. L. treatment and gold treatment for arthritis. The author discusses alcohol and tobacco in detail. Certainly, it would be commendable for every physician to review such discussions as tobacco and alcohol and apply them to his everyday practice.

The author also discusses the hormones and the heavy metals in a most interesting fashion. A short chapter is devoted to prescription writing, which has become a lost art.

This book is a valuable reference work, serving not only as a refresher course in the older drugs but also brings one up to date on the new drugs.

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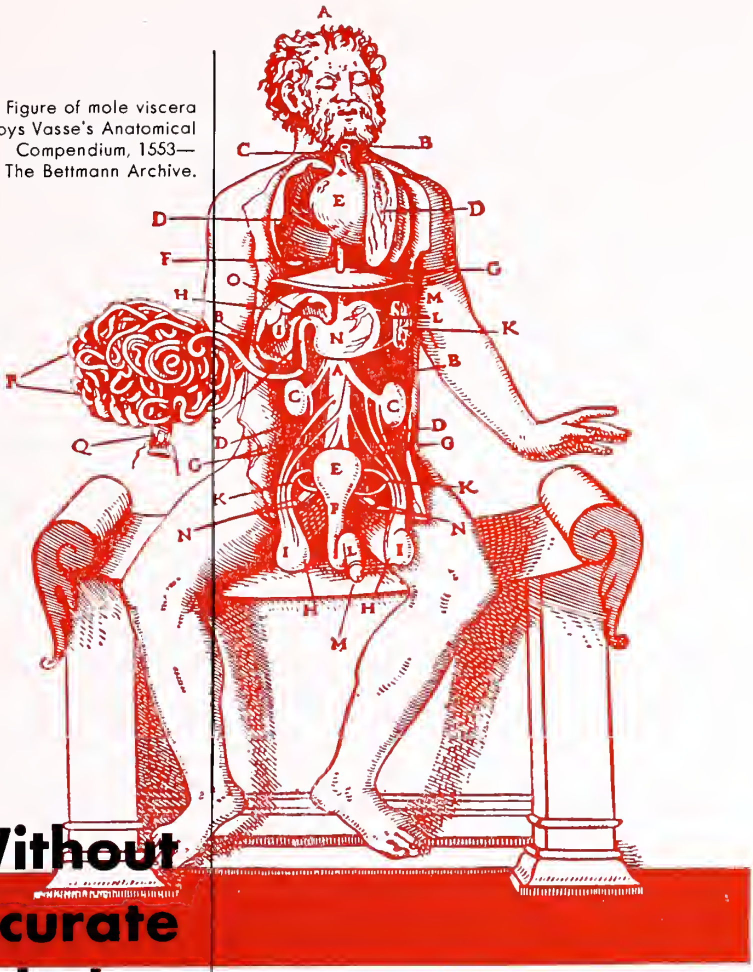

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